











# THE FORTY-NINTH YEARBOOK

OF THE  
NATIONAL SOCIETY FOR THE STUDY  
OF EDUCATION

*PART II*  
THE EDUCATION OF  
EXCEPTIONAL CHILDREN

*Prepared by the Society's Committee*

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## EDITOR'S PREFACE

Consideration of the desirability of a yearbook in the field of special education was initiated by a letter to the Board of Directors written by Dr. Harry J. Baker on behalf of the International Council for Exceptional Children. Following a preliminary discussion of this suggestion at the meeting of the Board in April, 1946, it was decided to request Dr. Baker and his associates to prepare a formal proposal indicating the most useful kind of yearbook in this area from the point of view of the purposes and plans of the Council. The resulting proposal was presented to the Board of Directors at its meeting in June, 1947, by Messrs. Kirk and Stullken, who had been selected by the Council as a special committee to confer with the Board. The proposal was approved, and Mr. Kirk was requested to serve as the chairman of the committee for the preparation of the yearbook. Mr. Charters was appointed a member of the committee, serving as the representative of the Board of Directors.

Although prepared by recognized specialists in fields of study pertaining to different classes of atypical children, *The Education of Exceptional Children* will furnish valuable guidance to teachers in regularly organized classrooms, to school administrators and supervisors, and to the parents of children requiring unusual educational programs and facilities, as well as to the various professional workers having specialized training in the educational, psychological, or medical services which contribute to the improvement of the educational opportunities and the personal welfare of the children with whom this volume is concerned. It is also anticipated that the yearbook will stimulate further progress in the development of teacher-training programs designed to facilitate the work of all classes of teachers in dealing with pupils whose learning experiences are rendered ineffective by educational handicaps of different kinds. Earlier yearbooks of the Society have dealt with the educational requirements of particular classes of exceptional children and, in various connections, with the peculiar needs of some children in relation to specific learning problems. The present volume describes the appropriate procedures in all areas of special education and in various types of school situations.

NELSON B. HENRY





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## INTRODUCTION TO YEARBOOK

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### PURPOSE OF YEARBOOK

The purpose of the yearbook is to explain the nature of the problems with which the school and the community are confronted in connection with the education of exceptional children and to describe the procedures and special services which have been found effective in meeting the needs of exceptional children within a school system. The presentation of these problems will be directed to school administrators and teachers who are unfamiliar with the technical phases of diagnosis and the indicated therapy with reference to the seriously handicapped among the different groups of exceptional children rather than to the various specialists in the field.

Busy administrators should find within the pages of this book answers to the problems which face them in promoting, organizing, and administering special services for the various groups of exceptional children. They should find answers to both the general questions which apply to all groups of exceptional children and the more specific questions pertaining to particular types of exceptional children.

Regular classroom teachers should find this book of great assistance in adapting instruction to the needs of pupils within their own classrooms. It is important that the regular classroom teacher be sensitized to the problems faced by exceptional children, to know where to refer them, and to know what to do with the many borderline children who will always be found in the regular classrooms. A major purpose of the book is to acquaint the regular classroom teacher with the needs of exceptional children, the attempts of our democratic society to meet these needs, and the procedures employed by the various specialists in the field.

The teacher of a special class should receive invaluable assistance from the yearbook, not so much with the special techniques of teaching his particular area of specialization, but in broadening his knowledge about the specific problems faced by the children outside the classroom and

in acquiring knowledge of practices for other groups of exceptional children. The teacher of the deaf, for example, would gain knowledge about the organization of classes for the deaf, information concerning other services for the deaf, and also an understanding of the problems of other types of exceptional children rather than techniques of teaching the deaf in his classroom. Even a class for the deaf has within its own organization children who are mentally retarded or accelerated, children with defective vision, or other handicaps. To this extent, the book as a whole should be of value to all teachers of special classes.

In addition to administrators and teachers of regular and special classes, students in teachers colleges and universities who plan to embark on the career of teaching should find this book of service in orienting them to the problems of exceptional children. In this way the book could serve as one of the textbooks in an orientation course on exceptional children—a course which should be required of all teachers in training.

#### ORGANIZATION OF THE YEARBOOK

The yearbook is divided into three sections. Section I attempts to give the reader an overview of the general concepts and problems relating to all groups of exceptional children. Each chapter in this section is concerned with the common problems of children who deviate mentally, physically, or socially. It orients the student to the basic problems common to all rather than to problems which are peculiar to specific types of exceptional children.

Section II of the yearbook consists of chapters written by specialists in the various fields. In this section the visually defective, the acoustically handicapped, the speech defective, the orthopedic and cardiopathic children, the mentally handicapped, the gifted, and the socially maladjusted are considered separately.

Section III is an attempt to push forward the frontiers of the care and education of exceptional children by discussion of two problems that have not been emphasized sufficiently in the past, namely, the prevention of handicaps in children and the need for more emphasis on research in the field.

The appendix includes a list of publications and agencies dealing with exceptional children. Workers in the field, including school administrators and teachers, social workers, psychologists, and others dealing with exceptional children, can obtain valuable assistance and information from these publications and agencies.



## SECTION I

### GENERAL CONCEPTS AND PROBLEMS

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#### CHAPTER I

### BASIC FACTS AND PRINCIPLES UNDERLYING SPECIAL EDUCATION

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#### THE YEARBOOK COMMITTEE

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#### DEFINING THE PROBLEM

##### Educational Significance of Exceptional Traits

In every school system there are pupils who, because they deviate markedly from the so-called "normal" child, require special skills and services on the part of teachers and other school personnel. These children cannot adjust to the school program without such special services. Some of them are physically handicapped—blind, deaf, epileptic, or crippled. Some differ mentally to a significant degree, being either seriously retarded in intellectual development or exceptionally gifted. Some are emotionally disturbed or are unable to make a proper social adjustment in school and community; among these are children with serious behavior problems which may result in a disturbed personality or in delinquency.

All these are called "exceptional children," the term being used to refer to *those who deviate from what is supposed to be average in physical, mental, emotional, or social characteristics to such an extent that they require special educational services in order to develop to their maximum capacity.* Those special services may include a radical modification of the curriculum, special methods of instruction, special equipment, or an adjusted school schedule. Under present conditions of school organization, they can sometimes be offered best through the medium of a special class or school; but, in many cases, they may be provided for individual pupils in a regular class. Whatever the type of exceptional condition and wherever the child may be, the important matter is that the child's needs be identified and satisfactorily met.

##### The Responsibility of Public Education

Inherent in the philosophy of democracy is the doctrine that every child is entitled to an education to the limit of his capacity. "All men are

created equal" is a phrase so often used that it has become almost trite. Yet it is always meaningful. All are equal before the law, equal in their claim to freedom, equal in their *right* to learn if not in their *capacity* to learn.

Democracy is, therefore, committed to the principle of education for all, regardless of race, creed, or abilities. It is committed to the education of all who are educable. The education of exceptional children represents an attempt on the part of the school to furnish equal opportunity to individuals who differ in physical, mental, and social characteristics. It is a logical application of the truth that "all men are created equal."

Another frequently quoted principle of democracy is that of the inalienable right of the individual to "life, liberty, and the pursuit of happiness." It is not the accepted view that these rights are to be made secure for a select few, for those who are economically privileged, for those who have average intelligence, or for those who are physically normal. If the statement is taken literally, it means that *everyone* is entitled to security in these respects. Moreover, by "everyone" we mean children with high intelligence, average intelligence, and low intelligence; children who are physically normal and those with serious handicaps; children who behave as average children do, and those whose behavior is antisocial. All of them have an equal right to life's satisfactions. And it is the responsibility of public education to see that they get what they need.

### Objectives of Education for Exceptional Children

The objectives of the education of exceptional children must be in accord with these principles of democracy. They do not differ from the general objectives of education for all children. Exceptional children, like others, must become well-adjusted members of the family and the community, must participate in the activities of the work-a-day world, and must assume responsibilities in keeping with their capacities as citizens in a democracy.

The Educational Policies Commission has identified four groups of objectives or educational purposes relating, respectively, to the person himself, to his membership in the family or community group, to his activities as a producer and consumer, and to his life as a citizen. The Commission defines these four groups as the objectives of (a) self-realization, (b) human relationship, (c) economic efficiency, and (d) civic responsibility.<sup>1</sup>

Every one of these applies to exceptional children. Self-realization is a universal need. The differences among people lie in the way in which that

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<sup>1</sup> Educational Policies Commission, *Policies for Education in American Democracy*, p. 189. Washington: National Education Association, 1946.

self-realization is expressed. Everyone—exceptional and average alike—must have satisfying human relationships. Economic efficiency should be attained to the degree appropriate to each individual's interests and ability. Civic responsibility belongs to us all without exception. One other aim of education might well be added to these four, that of satisfying spiritual experiences. For the seriously handicapped child, the inner life is often the major source of personal enrichment. Education must help to lay the foundation for the realization of such satisfying experiences.

### The Need of Special Education

Exceptional children do not profit sufficiently from the group education techniques used in most of our schools for teaching children of average ability. Society has not constructed enough classrooms, has not kept classes small enough, and has not provided enough highly qualified teachers. For this reason, it is necessary to furnish special services for exceptional children, either in the regular classroom or in special schools and classes, if we expect them to grow according to their potentialities.

A child with seriously defective vision requires different techniques of instruction than the child who has normal vision. So, also, a child with a marked hearing loss requires additional services and special instruction. The crippled child requires special facilities for his physical care and must have appropriate adjustments of his daily schedule if he is to make satisfactory progress. Even when all of these are provided, exceptional children in the same class with normal children and with the same teacher, all trying to learn under the same methods of instruction, do not have equality of opportunity with others. Educational equality demands the consideration of individual differences and needs and the provision of special services to meet those needs.

### Contribution of Special Education to the Education of All Children

All children in a school system profit from the special services provided for exceptional children. In the first place, handicapped children require more individual attention than the children who are not handicapped. If a regular classroom teacher is to devote adequate time to the exceptional child in a large class, he must often curtail the attention given to other children in the group. But when needed special services are provided for the handicapped child, the normal pupils may have the benefit of more of the teacher's time.

In the second place, the methods that have been developed for exceptional children have yielded gratifying results in the education of other children. There is an oft-repeated saying that we learn about the "normal" from the "abnormal." Many educational practices for the correc-

tion of social maladjustments in deviate children have proved to be excellent preventive methods for all. Certain techniques that have been developed for seriously retarded children are also good for those of average ability. Some pioneer educators, such as Montessori, Decroly, and Horace Mann, who began their educational work with exceptional children, found that the techniques which they developed were of great advantage to others. The activity movement, for example, in which it was emphasized that the mentally defective could learn best "through doing," was later advocated as a general educational procedure. Programs for exceptional children have thus provided laboratory situations leading to the development of new philosophies and methods, which in many cases have a universal school application.

### THE EXTENT OF THE PROBLEM

From one point of view, of course, every child is exceptional, since every child's individual abilities and disabilities differ from those of every other child. In this discussion, however, the term "exceptional" is applied only to those who are so markedly different in physical, mental, emotional, or social traits that they need special educational treatment or services.

No complete census of such exceptional children has ever been taken. As a result, authorities differ in their estimates of the percentage of a given school population that would be considered "exceptional." At the White House Conference on Child Health and Protection, held in 1930, it was reported that "there are more than 3,000,000 children in the elementary schools of the United States who require special treatment and training to make the most of their possibilities. And this number does not include children who are suffering from malnutrition—a number approximated as 6,000,000—and 625,000 more who have weak hearts."<sup>2</sup>

In a more recent publication issued by the United States Office of Education, it is estimated that 12.4 per cent of all school children require special services.<sup>3</sup> Baker reports that in Detroit, Michigan, 7 per cent of school children are receiving special education. Since there are waiting lists for special classes, he concludes that approximately 11 per cent of the total school population might need special education.<sup>4</sup> On the basis of these and other available findings, one might conservatively estimate that from 10 to 12 per cent of children of elementary- and secondary-

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<sup>2</sup> White House Conference on Child Health and Protection, *Special Education: The Handicapped and the Gifted*, p. 7. New York: Century Co., 1931.

<sup>3</sup> Elise H. Martens, *Needs of Exceptional Children*, p. 4. United States Office of Education Leaflet No. 74, 1944. Washington: Government Printing Office, 1944.

<sup>4</sup> Harry J. Baker, *Introduction to Exceptional Children*, p. 458. New York: Macmillan Co., 1944.

school age would be considered "exceptional" and in need of special educational services. The total number, according to the U.S. Office of Education report referred to above,<sup>5</sup> would approximate 4,000,000.

These exceptional children do not, of course, comprise a single homogeneous group. They include children with deviations in various areas. The different groups of exceptional children discussed in Section II of this yearbook include:

1. Children with physical handicaps
  - a) Crippled children—those with poliomyelitis, cerebral palsy, congenital deformities, and other orthopedic handicaps; also children with cardiac difficulties, sometimes called "crippled" hearts
  - b) Children with impaired hearing—the congenitally deaf, the adventitiously deaf, and the hard of hearing
  - c) Children with visual impairments—the blind and the partially seeing
  - d) Children with speech handicaps<sup>6</sup>
  - e) Children with other types of physical handicaps, such as tuberculosis, epilepsy, and endocrine disorders
2. Children with mental deviations
  - a) Children of low intelligence, including both the feeble-minded and those who are less seriously defective in intellectual development
  - b) Children with high intelligence, including both those with special talents and those who are superior in general intellectual abilities
3. Children with emotional or social maladjustments, including those with serious behavior disorders or emotional disturbances

The education of exceptional children, then, involves a program designed to further the growth of the 10 to 12 per cent of children who require special facilities for their optimum development. As previously noted, the goals of education for them are the same as those for all children. The difference lies in the means or techniques by which those goals can be realized and in the way in which they find expression in the individual's life.

#### CHANGING CONCEPTS IN THE EDUCATION OF EXCEPTIONAL CHILDREN

##### Early Ideas of Custodial Care

Through many centuries exceptional children have had the attention of the society in which they lived. During the pre-Christian era, the

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<sup>5</sup> Martens, *op. cit.*

<sup>6</sup> Speech handicaps may be of either physical or functional origin. For purposes of state legislation providing financial support, these children are usually included among the "physically handicapped."

handicapped were persecuted, neglected, and mistreated. Survival of the fittest was the code. With the beginning of the Christian era, certain societies became interested in the custodial care of handicapped individuals. There was emphasis upon the brotherhood of man and upon the responsibility of the strong to protect the weak. As a result, it became the task of religious groups to care for handicapped children.

During the Middle Ages the church continued as the responsible agency. Institutions for the deaf, for the mentally deficient, and for other groups were established in Europe in the seventeenth and eighteenth centuries. Medical science then became interested. Itard, Seguin, Montessori, Decroly, and Binet were all physicians or psychologists. These were some of the persons who made the early contributions to the education of the deaf and the mentally deficient.<sup>7</sup>

### Early American Efforts

In America, the first residential institution for handicapped children was the American School for the Deaf, privately organized in Hartford, Connecticut, in 1817.<sup>8</sup> In the years that followed, states began to recognize their responsibility, and by the middle of the century several state schools had become established. Today there are very few states in the United States that do not have residential institutions for the blind, the deaf, the mentally deficient, and the delinquent.

Special classes in local school systems did not become widely known until the early part of the twentieth century, though some classes had already been organized in a few large cities before 1900. Today classes for all types of exceptional children are well-established parts of many local public school systems.

### Influence of Twentieth-Century Developments

It was not until about the time of World War I that special education in local school districts made significant advancement. By this time compulsory school attendance had become widespread in the United States. The schools could no longer neglect children, and parents could no longer permit children to remain at home without official exemption from school attendance. In addition, the mental testing movement had become general in the United States and provided an instrument for the study of the educational potentiality of each child. The use of these tests led to greater recognition of individual differences among school children

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<sup>7</sup> Merle E. Frampton and M. E. Rowell, *Education of the Handicapped*, Vol. I, *History*, p. 9. Yonkers, New York: World Book Co., 1948.

<sup>8</sup> White House Conference on Child Health and Protection, *Organization for the Care of the Handicapped*, Sec. IV, p. 35. New York: D. Appleton Co., Inc., 1932.

and thus contributed to the development of special programs for those who were deemed exceptional.

By 1930, sixteen states had enacted laws authorizing reimbursement to local school districts for the excess cost of the education of exceptional children.<sup>9</sup> The depression of the 1930's retarded progress, but statistics show that despite the depression there were more children enrolled in special classes at the end of the decade (in 1940) than at the beginning.<sup>10</sup> This meant that school systems which had already established such provisions for exceptional children found the value of the work so great that they continued it, even though state funds for reimbursement had been decreased. Some local school systems began the work without state reimbursement.

World War II demonstrated that the handicapped are excellent workers when they are given the opportunity to produce. During the war the United States Civil Service Commission published data<sup>11</sup> showing that (a) there was less absenteeism among the handicapped than among the nonhandicapped; (b) there was less turnover among the handicapped than among the nonhandicapped; (c) there was a lower accident rate among the handicapped than among the nonhandicapped; and (d) the production record of the handicapped was higher than that of the nonhandicapped.

It was discovered, too, during the war that, in order to accelerate training and utilize all manpower, the Army must recognize individual differences among men. Approximately 300,000 men, out of about 10,000,000 inducted into the Army, were placed in special-training units for illiterates or marginally literate men.<sup>12</sup> Thousands more went through reconditioning centers for the physically handicapped, to be prepared for active duty or for production in civilian life. In certain military camps, programs for the socially maladjusted were initiated in order to rehabilitate men for duty.

The military forces are not necessarily reform organizations. They are not educational institutions. Their task was to win the war as fast as possible with the least number of casualties. All training programs were

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<sup>9</sup> Robert W. Kunzig, *Public School Education of Atypical Children*, pp. 26-27. United States Office of Education Bulletin No. 10, 1931. Washington: Government Printing Office, 1931.

<sup>10</sup> Elise H. Martens and Emery M. Foster, *Statistics of Special Schools and Classes for Exceptional Children, 1939-1940*, p. 6. Washington: Government Printing Office, 1942.

<sup>11</sup> *Untapped Manpower*. Washington: United States Civil Service Commission, November, 1943 (revised edition).

<sup>12</sup> Information obtained from Adjutant General, United States Army.

organized with that aim in view. It was a sound expedient for the Army to set up special educational provisions for men in the Army, in order that training might be accomplished and the war won as soon as possible with the least possible loss of men.

This wartime program and the return of many handicapped men to civilian life after the war had a definite effect upon special education for exceptional children. The general public became more and more cognizant of the work that could be done with handicapped individuals. States which already had special-education programs in operation expanded their offerings. Many that had not made such provisions now passed laws and appropriated large sums of money for the promotion of work in the local schools. By 1948, forty-one states had enacted laws authorizing or requiring local school districts to make special provisions for one or more types of exceptional children. Thirty-four of these states have provided funds to help the local districts finance the program.

### Modern Philosophy of Special Education

*Exceptional Children Are Basically Like Other Children.* It must always be remembered that the education of exceptional children has basic concepts and goals in common with the education of all children. The same principles of child development prevail. A deaf child is a child with a hearing handicap. As a child, he has all the needs, desires, and physical energy of children in general. Basically, the only way in which he differs from an average child is his inability to hear; and, because of this hearing handicap, he is unable to speak. This difference makes it necessary to plan his education with special consideration for his disabilities. The mentally retarded child, the child with a visual impairment, the crippled child, and every other exceptional child has fundamental motives and drives common to children in general; but along with those common characteristics there is in each case a specific handicap or exceptional condition that requires an adjustment or special service in his educational program. That program should be designed with full recognition of (a) his likeness to normal children and (b) his special needs. This, in brief, constitutes the modern approach to the education of exceptional children.

*Instruction of Exceptional Children Is Individualized.* In view of the unique aims of the special-education program, it is necessary to provide for the individualization of classroom work with all exceptional children. Special classes for the deaf or the blind have enrolments of six or eight children, and a class for the mentally handicapped may number from fifteen to twenty children. By keeping the classes small and by securing adequately prepared teachers, instruction becomes individual. It is true, of course, that individual instruction for all children in regular classes has



been advocated for many years. But to individualize instruction in a class of thirty-five or forty pupils of varying abilities and needs is a difficult matter. The small size of classes in special education makes it possible to achieve that aim much more readily.

*Diagnostic Services Are Provided.* Children should be referred for special education only after adequate diagnosis of the physical or mental condition has been made by an appropriate specialist. Ophthalmologists, otologists, orthopedists, pediatricians, and psychologists are important people in conducting a school program for exceptional children, for it is only when a proper diagnosis has been made that appropriate school adjustments can be planned. A correct diagnosis is, therefore, the first step in any school service for the exceptional child. Special education emphasizes this procedure as a necessary element in the total philosophy underlying the program.

*Class Placement Is a Flexible Matter.* There has been considerable controversy over the policy of "segregation" of exceptional children from the normal school population. The modern concept of special education looks upon the special program planned for an exceptional child as comparable to an arrangement made for any child when he needs to enter a hospital for a month or two months or a year. It is a special service made available to him when and while he needs it. It is not a matter of taking him away or separating him from something which he has a right to enjoy.

Moreover, special education admits of various procedures and situations. It may in some instances be brought to a child in the regular classroom, where the regular teacher or a visiting specialist will help him to make the needed adjustment. It may involve a limited period of extra and special help outside the regular classroom, as in speech correction or lip reading, while the pupil spends most of the day with his regular teacher. It may mean spending a large part of the day with a special teacher, as in sight conservation, and the rest of the day in regular classes. It may mean spending most of the time in a special class, with occasional or periodic participation with other children in selected school activities. In some cases it may mean continuing membership in a special day school or in a special residential school.

All these are varying degrees or levels of special services, and each must be chosen according to the best interests of the child. If a child can be accepted by a regular class and can profit by instruction in the regular class, with needed special services brought to him there, he may well remain there. If, however, his enrolment in the regular class is detrimental to his own development or that of the other children, then he should be placed where his growth can best be furthered. Thus, the education of

exceptional children accepts special services in regular grades, special classes, and special schools as possible means for the appropriate education of each child.

*Special Education for the Handicapped Does Not Preclude Measures of Prevention or Correction.* It is a major responsibility of society to use the results of medical research and the social resources at its command to *prevent* handicaps and maladjustments among children. Workers in the field of special education would gladly see the need for such services eliminated. But while the need prevails, they must carry on, always seeking the ways and means of preventing further complications and correcting existing handicaps, and, when measures of prevention or correction have not proved effective, doing everything possible to bring about a satisfying compensation and adjustment.

#### EXTENT OF EDUCATIONAL PROVISIONS FOR EXCEPTIONAL CHILDREN

##### Enrolment in Special Schools and Classes

Statistics gathered for the year 1947-48 indicate that approximately 365,000<sup>13</sup> exceptional children were enrolled in special schools and classes or for home or hospital instruction provided by local school districts. In 1940 the number so reported was 313,722. When one adds pupils attending classes in residential schools for the blind, the deaf, the delinquent, the epileptic, and the mentally deficient, the over-all figure for 1948 was about 425,000 as compared with 385,000 in 1940 and 335,000 in 1932. Although there has been a steady growth in providing special-education facilities for exceptional children, we are still far from reaching the desirable goal. If we accept the estimate that from 10 to 12 per cent of children of elementary- and secondary- school age are in need of special educational advantages, the schools should probably be providing such advantages for three or four million children instead of caring for slightly more than 400,000. This work must be done either in special schools and classes or through adjustments made in the regular classes.

##### Adjustments in Regular Classes

There is no way to determine the extent to which adjustments are being made in regular classes for children who are "exceptional" as judged by our definition. There is no doubt that many capable and understanding teachers are attempting to apply the modern concepts of child development to meet the needs of exceptional pupils. When no special educa-

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<sup>13</sup> From figures, as yet unpublished, gathered by the United States Office of Education.

tional services are available, the teacher does the best he can, sometimes with effective results.

It is obvious, however, that no one teacher can be expected to be a specialist in sight-saving techniques, lip-reading instruction, speech correction, adjustments for the mentally deficient, and every other educational service represented in special education. When there are several exceptional children in the same classroom, each representing a different type of handicap or exceptional condition, the only satisfactory way to give them the service they need is to secure the aid of persons who know their respective problems and who can either help the children directly or help the regular teacher to help them. This is the procedure followed in the rural schools of states where supervisors or consultants in special education operate on a county-wide basis and travel from school to school to assist teachers in identifying exceptional children and in making adjustments for them. There is no way of knowing how many children are actually being served in this way.

#### State-wide Provisions

The most dramatic growth in special education has taken place through the enactment of legislation stimulating the development of state-wide programs. Reference has already been made to the fact that forty-one states have laws authorizing or requiring local school districts to organize special schools or classes for one or more groups of exceptional children; and that thirty-four of these states have made appropriations to help local districts meet the excess cost of such service.<sup>14</sup>

It should be further noted that twenty-three states have enacted legislation providing supervisory or consultative service in special education through the state education department and that eleven more states have furnished such service under the general powers granted the chief state school officer. Since only sixteen states had supervisory personnel in special education at the state level in 1940, it is obvious that this phase of the program is growing satisfactorily.

Another field in which the state has taken an active part is the area of teacher education. In chapter vi detailed consideration is given to the whole matter of the preparation of teachers. It need only be said here that never before have states encouraged the preparation of teachers of exceptional children as they are doing today. Such encouragement takes the form of special appropriations to selected teacher-education institutions for the development of a well-rounded program in special education,

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<sup>14</sup> Elise H. Martens, *State Legislation for Education of Exceptional Children and Youth*. United States Office of Education Bulletin No. 2, 1949. Washington: Government Printing Office, 1949.

co-operation with a number of teacher-education institutions in the state through partial payment of the salaries of selected staff members, or the granting of scholarships to teachers in service for summer-school study. University and college administrators are finding it necessary to increase their efforts to provide adequate personnel for a program which is growing rapidly. Voluntary agencies, such as parent-teacher organizations and crippled children's societies, are joining in the recruitment program and are offering financial assistance. Through all these resources, the attention of prospective teachers and of teachers in service is being drawn to the professional opportunities in the special-education field.

### ESSENTIALS OF A WELL-ROUNDED PROGRAM

If a program for the education of exceptional children in a given state or community is to be complete, certain essentials of an effective program must be included. Each of these is discussed in greater detail in chapters that follow. They are briefly stated here in order to present the picture as a whole.

#### There Must Be Special Services for All Types of Exceptional Children

This means that no group can be neglected. The needs of each one must be considered just as important as the needs of every other. All kinds of physical handicaps, mental handicaps or intellectual brilliance, emotional disturbances, and social maladjustments are matters deserving of attention. Children in any one of these groups are in special need.

#### There Must Be Services in Both Urban and Rural Areas

Often cities can carry on programs of special education while rural areas go without them. There are various ways in which children in isolated areas and small towns can be served. They, as well as city children, have a right to special educational facilities. States and counties must see to it that *every* child in the state is given the kind of attention and services he needs.

#### There Must Be Early Identification and Adjustment

The earlier an illness is diagnosed, the more certain is the chance of recovery. So, too, with exceptional children. The earlier a handicap is identified and a proper adjustment made, the more hopeful can we be of a satisfactory life adjustment. This means that nursery-school education may be even more important for many exceptional children than for normal children. Early school entrance should be possible for all.

### Special Education Should Extend through Elementary- and Secondary-School Years

Practice too often takes an exceptional child through the elementary years with a special-education program and then leaves him to shift for himself in high school. Frequently, he drops out of school altogether because he cannot make the pace. The responsibility of the school is not fully discharged until the youth has found an adequate way of adjustment, with as much of a well-selected high-school program accomplished as he can handle.

### A Comprehensive Guidance Service Is an Integral Part of Special Education

Guidance is recognized as essential in all school programs. For exceptional children who have problems far beyond the ordinary, it is especially important. Guidance should begin when the child enters school and should continue until he has found his way to life adjustment. This means primarily guidance for work that is in keeping with recognized abilities and limitations; but it means, too, guidance for all-round, well-adjusted living. This is the essence of special education.

### Special Education Extends beyond the School Building to the Home and to the Hospital

Not all exceptional children can go to school. The school must come to them while they are confined to home or hospital or to a convalescent home or sanatorium for a period of time. Wherever the child is who has a special problem, there the school must serve him.

### The Parents of Exceptional Children Need Guidance

Many parents do not understand the problems of their children or what the school is trying to do to help them. Nor does the school always appreciate the parents' feelings, fears, and frustrations. There should be a definite plan for school-home co-operation, mutual understanding, and mutual helpfulness.

### There Must Be a Program of Teacher Education

Children with special problems require teachers with special skills and abilities. These do not come without much study and preparation. Pre-service education and in-service study are both important. No program of special education should be carried on in a school or school district without a plan for the improvement of instruction on the part of all teachers. No teacher-education institution should fail to consider the possibilities of special education as an area of service, nor should it

graduate any teacher for the elementary or secondary grades without some orientation in the needs of exceptional children.

### School and Community Resources Should Be Co-ordinated

There are many community agencies which deal with the adjustment of individuals. Various social agencies, private organizations, service groups, and state offices should be asked to help with the program. The school cannot do the job alone. Education, health, and welfare groups are all concerned. Through the co-operation of all of them, each working in its own area, the greatest results can be achieved.

Nor should special education be isolated within a school or school system. It has too many problems in common with general elementary and secondary education to warrant independent and separate organization and procedures. It should have expert leadership but should constitute an organizational unit in the administrative plan of the school or school system. Close working relationships on the part of all units or divisions will reveal to each the resources that are available from the others. Exceptional children need them all.

### The Community, the State, and the Nation Are All Involved

The community is where the children live, where the schools are, and where special education is carried on. But the community needs the state's support, its guidance, its financial help. And a *state-wide* plan of special education will be achieved only as the state gives guidance and financial help to all schools within its boundaries. So, too, the states look to the nation for help. The federal government carries a responsibility that is no less than that of the state. Only when maximum effort is carried on at all three levels—community, state, and nation—can we look for an adequate program of special education for exceptional children.

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CHAPTER II

ADMINISTERING THE SPECIAL SERVICES  
FOR EXCEPTIONAL CHILDREN

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INTRODUCTION

The area of greatest responsibility for the success of an educational program rests in the administration. There may be proven needs, accepted philosophy, trained personnel, proper study and testing of children, sufficient funds, and available facilities and resources, but the development of an effective program depends on proper and efficient administration. It is the control center for determining the need and for creating, fostering, and extending the program. Without adequate administration the entire organization is one of confusion, misdirection, and failure.

It is axiomatic that local, state, and federally sponsored programs of special education succeed in direct proportion to the efficiency of the administration of such programs. The modern school, with its emphasis on individual differences among children, makes it imperative that the administrator develop a sound philosophy of special education for those children who need special educational advantages in order to succeed. It is his responsibility to provide the means for a study and diagnosis of their difficulties and the services and facilities necessary for their training and education. Only a small percentage of the handicapped children will need to be institutionalized. Unless some very unusual condition makes it impossible for a child to remain in the home, he will be best served in his own community. Where the parents and neighbors have accepted the child with a handicap, it is not too much to ask the school to also accept



the child's limitation and to aid him in his growth and development. Although the progress may be slow, every child has the right to training suitable for him individually. Special education is justifiable in such cases merely from a mental-health point of view, because both the parents and the child will then feel that they have had the same consideration as other citizens of the community.

Administrative practices have too often shown a negative attitude toward providing for special training for children with unusual needs, handicaps, or problems. Many school administrators avoid these responsibilities instead of accepting them. Their attitude is generally that they provide a regular school program for all children and, if any cases do not fit into that pattern, it is not the responsibility of the school.

Other questionable administrative practices include: (a) refusing admission of some types of children to school, (b) encouraging parents to withdraw serious problem children from school, (c) allowing the child to work aimlessly, to run errands, to waste his time in other ways through the years of school attendance, or (d) providing custodial care in separate rooms or buildings without proper attention to the soundness of the educational program.

It is unfortunate that laws and practices of special education in many areas have developed without the initiative and guidance of people with educational training and experience. A study of the history of state laws dealing with special education shows that these laws were generally written and promoted by private agencies and that schools have frequently found themselves with a program thrust upon them for which they were not prepared.

#### OBJECTIVES OF SPECIAL EDUCATION

The principles of administration in general education apply equally in the area of special education. But something more must be added because special education involves children with special needs, teachers with special training, and special equipment and services. The administration of such a program needs a special philosophy, special techniques, and special practices.

All children are entitled to the best training possible to promote their growth and welfare. Schools have been established for that purpose. This means a recognition of the differences in children—physically, mentally, and emotionally—and an awareness of those factors within the child or the school which need special consideration. Since children's needs are complex and diverse, sincere effort must be made to give them individual study and guidance and to provide them with an environment conducive to their growth and comfort. Therefore, the administration

must recognize the newer and broader social viewpoints that apply to the education of exceptional children. Prevention and correction should come before maintenance and custodial care. A justifiable program of special education must show returns to society in fewer commitments to institutions, in reduction of need for pensions for the handicapped, and in decreased demand for adult vocational adjustment. The financial costs of special education should not be regarded as an additional burden, but rather as a valuable contribution to the efficiency of other programs which may prove to be economical in the long run. In a more positive way, special education should be able to justify itself by training individuals so that they are able to make an increased social and vocational contribution to society. Recognition must be given to the democratic and constitutional rights of all individuals—not excluding those who are unable to assert their own claim to those rights.

#### PRINCIPLES OF SOUND ADMINISTRATION AND SUPERVISION IN SPECIAL EDUCATION

Out of policies grow principles; out of principles evolve practices. A sound administrative policy and organization for the entire educational program is the first essential in securing sound administration and supervision for the special-education program.

Most principles of administration and supervision of the regular school apply equally to special education. There are common goals for all children; but because special education of exceptional children has some special responsibilities and problems not generally found in the regular school, certain other principles are essential in administering a program of special education.

1. The responsibilities for special education should be definitely fixed. It is often essential that special administrative provisions be made of special phases not included in any other part of the school program. These may be educational, medical, social, or psychological. It is important that some person have the authority to make decisions regarding policies, budgets, and buildings. Sometimes an assistant superintendent or director is responsible for the activities of special education and allied services for children. In smaller cities, the superintendent himself may define the policies and procedures.

2. Parents should be informed regarding the nature and purposes of special-education programs. It is necessary that all concerned believe that special education means just that—special training because of a handicap. It is not a punishment but a privilege to receive the extra service. The administration should also be responsible for instructing the princi-

pals and teachers that pupils should never be threatened with a transfer to a special class.

3. Administrators must accept the fact that special educational services will mean greater expenditures of money on the part of the school district. Just as it becomes an obligation of the parent to spend more money and effort in caring for the handicapped child, it becomes necessary for the community or school district or state to do likewise in providing adequately for the education of handicapped individuals.

4. It is the responsibility of the school administration to effect an organization for locating the exceptional child and for making a thorough study of his needs. It is necessary to determine which children need special services and also which ones do not need extensive special services. This requires trained personnel. The administration must encourage the medical profession, through the board of health, to help in the identification of those who are physically handicapped; it must secure the services of trained psychologists; and it must see that cumulative records give an adequate overview of the school performance.

5. Administrators must make provision for special housing, equipment, and instructional supplies. These should be considered legitimate expenditures even though they are costly. Since an exceptional child usually requires a larger share of the family budget, it is to be expected that his school training will also be more costly.

6. The administration should have a definite policy for transferring pupils to special classes, and parents should be informed of the reason. In the same way, a definite procedure for releasing pupils should be established. At no time should schools promise that the children need attend special classes for a short time and leave at their own or their parents' request without the sanction of the person or agency responsible for the transfer. Regular grade principals and teachers must be kept informed of the policy of the administration regarding special education so that they can help the parents understand and accept the required program.

7. Administrators should plan their program for the best interest of the whole child so that the placement of an exceptional child in a special class or his retention in a regular grade does not lead to more serious maladjustment. The physically or mentally exceptional child may easily develop personality, social, or emotional handicaps as a result of the way he is handled because of his basic handicap.

8. The administration must set up a general plan to integrate the special class with the rest of the school. Sometimes teachers who already have large classes may resent the transfer of additional pupils from the

sight-saving or open-window classes. The regular grade classes in such cases might be reduced so that the additional special pupils would not increase the general class load. In Detroit, where enrolment is a basis for rating the size of schools, each special pupil counts as two pupils.

9. The plans of the administrator must include provisions for parent education so that the program becomes one of teamwork toward common goals. The parent as well as the school must help the community to understand that, although children may differ greatly in physical and mental traits, all can work and play together if emphasis is put on the things the exceptional children can do instead of on their limitations.

10. Administrators must place unusual emphasis on the social and vocational adjustment of the exceptional child. Such emphasis has particular significance for the education of atypical children because they are unable to face their disabilities with sufficient composure to make the best use of their abilities.

11. Administrators should recognize that a program of special education is designed to meet the individual needs, interests, and disabilities of each atypical child. This suggests the importance of continuous administrative attention to the activities planned for handicapped pupils. Various types of adjustments must be made for individual requirements. Just removing handicapped children from the regular grades to a special room is not enough.

#### ORGANIZATION OF SPECIAL EDUCATION AT THE LOCAL LEVEL

The justification of special schools, classes, and services for exceptional children is to be sought in the benefits realized by the children in need of special consideration. It is obvious that the local school must accept the chief responsibility for the administration of direct and on-the-job services. The local board of education and its administrative officer are faced with definite and important decisions. The degree of successful adjustment and improvement among the children will be in direct proportion to the wisdom with which the program is planned.

#### Placing the Responsibilities

In small school districts the chief administrative officer may assume responsibility for directing the special-education program. As the size of the district increases, the program becomes increasingly complex. It is then necessary to delegate authority and responsibility. In large districts this may involve many individuals representing various phases of service. The best administration will result from training that enables the principals, supervisors, and teachers to develop a professional perspective of the special problems and how they may best be met.

### Surveying the Needs of Exceptional Children

The program of special education for exceptional children is based on fundamental social theories. It is the right of deviate children to have an educational program adjusted to meet their individual needs, interests, abilities, and limitations. It is the legal responsibility of the state and the local district to furnish this program. This is the American and democratic way of solving a problem. It is sound government planning to provide remedial and preventive programs for exceptional children in their formative years, and it is sound economy to spend rather small sums for these early training programs rather than much larger sums for pensions and custodial care in later years for those who cannot make appropriate adjustment to normal social situations.

Available studies show that the child in need of special education is by no means rare. He appears in the schools in many types and degrees, and he is found in every community. Good administration will be interested in using all available means to meet the educational needs of such children. Principals and teachers realize that if special services are not provided for the exceptional children they will of necessity be enrolled in regular classes. It is important that all members of the staff recognize the values of the special-education program to the total membership of the school as well as to the handicapped children themselves. Building principals, regular classroom teachers, supervisors, counselors, and nurses all have a part in planning the program, in rendering the essential services, and in developing school and community understanding of the program.

The administrator must determine what types of exceptional children are to be provided for, the programs to be made for those with varying degrees of handicaps, and the ages to be served. The program is incomplete if any child is neglected or any service omitted.

There are certain administrative directives necessary with respect to the age groups to be served. Some states have statutory regulations that must be considered. There are also educational factors based on observable stages of growth and development. Different procedures will be necessary if special services are planned for wide age ranges in the same class in contrast to age groupings. A complete program would provide for handicapped children of nursery-school age and also for those at the upper age limits.

The administration must prescribe the method by which pupils may be referred for special-education service. A definite procedure should also be developed for a report to the school and to the parent when the final recommendation has been made. The administration should see that retests and rechecks are made from time to time so that pupils may be returned to the regular classrooms when they no longer need the special

services. This is true of mentally handicapped pupils as well as those with physical handicaps.

It is important that the philosophy of special education in regard to segregation be explained to both teachers and parents. Segregation is not always a matter of separate rooms. It may be a matter of psychological or social repression. *A child cannot be more cruelly segregated than to be placed in a room where his failures separate him from other children who are experiencing success. The nonreader, the deaf, or the mentally retarded may be segregated by placement in a regular classroom where his needs are not understood or met.*

Class size may differ even in the special groups. Classes for the deaf enrol fewer pupils per teacher than most of the other types of classes. The administration should establish rules and regulations regarding class size and should inform the regular teachers of the reasons for smaller groups in special-education classes. The size of classes should be determined by the best thought concerning handicapped children, due consideration being given to any regulations of the state department of education. The federal office of education is always willing to give advice and help in the development of a special program.<sup>1</sup>

### Identification of Pupils

The administrator can secure valuable help in determining screening procedures in his school system by consulting various special agencies. Clinics and other agencies have developed effective procedures for audiometric and visual testing of school children. The school health department is especially alert in discovering and referring cases of physical disability. The administrator should use all of these resources and develop techniques of clearing cases with them. Many of the perplexing problems of the administrator are solved and many pitfalls avoided by a clearly defined process of identifying and referring exceptional children. The Detroit Public Schools, for instance, have developed a mimeographed pamphlet giving definite direction to the many resources contributing to the program.<sup>2</sup> Group testing may be employed to locate various types needing further special study. Many schools use such tests in routine programs for determining mentally and educationally handicapped children. The entire school staff is encouraged to refer deviate children as they are discovered in ordinary school progress surveys.

<sup>1</sup> *Co-ordination of Effort for the Education of Exceptional Children*, "Report of a Conference Called by the U.S. Office of Education." Bulletin of the United States Office of Education, No. 7, 1935. Washington: Government Printing Office, 1935.

<sup>2</sup> Bernice Leland, "The Psychological Clinic: A Handbook of Information and Directives for Examiners, Visiting Teachers, and Other Members of Staff." Detroit, Michigan: Board of Education, September, 1948 (mimeographed).

After the screening program has been concluded, careful study should be made of each pupil with serious defects, physical or mental. When necessary, he should be referred to a psychologist, otologist, ophthalmologist, orthopedist, or other specialists. Their findings go much further than diagnosing the handicap. They give the school the essential data that will be useful in formulating the educational program for each child. The value of this phase of the program cannot be overemphasized. It not only locates the child who needs special attention and assists in formulating a sound program for him but also protects the normal child from being mistakenly assigned to special classes.

Since special education is based on meeting the individual needs, interests, abilities, and limitations of the exceptional child, it is important that complete records be kept on each child. The case record brings together the educational, medical, psychological, and family data which are essential in developing an adjusted program for the pupil. It is not enough that the clinic have the medical record of a given case. It needs the educational and social information as well. The school, likewise, needs the medical diagnosis, prognosis, and health suggestions so that it may best serve the child educationally. The administrator is not only faced with problems of making plans for securing these various data but also is responsible for filing them so that they may actually be used by all the staff involved in the program.

### Selecting the Staff

It is important in any plan of providing for exceptional children that some minimum requirements be established for those who are to teach or serve them. Since these pupils are like average children except for certain abilities or disabilities, teachers should have had the fundamental training required for the teaching of normal children with additional courses pertaining to the needs of pupils with particular handicaps. Teaching classes of normal children is a helpful, preliminary experience to the more exacting task of teaching exceptional children.

Teachers appointed to teach special classes should have a regular state teaching certificate and twenty to thirty semester hours of specialization. The special courses may have been included in the training leading to the general teaching certificate or they may be in addition thereto. More specialized training is required for teaching some exceptional groups than for others, and teacher requirements should conform to the standards set up by the special-education staff in the state department of education.

Training alone does not insure well-qualified teachers. Therefore, attention should be given to the matter of personality, interest in the special child, and sympathetic understanding of child problems. Since

exceptional children often have the same teacher year after year, it is important that only teachers with a hopeful attitude and genuine interest in such children be appointed to teach them. On the other hand, since many exceptional pupils remain in the regular classrooms, training courses for all teachers might well include orientation courses in special education.

### Supervision of Special Classes

In small cities the supervision of special-education classes may be assigned to an assistant superintendent or to the primary supervisors. In very small schools, the superintendent may take direct charge. In larger cities, each activity should have its own supervisor trained in the particular field. The supervisor should have had teaching experience, additional courses in his area of specialization, and should have at least a master's degree in education. The functions of such supervisors are both administrative and supervisory. They should develop curriculums and bulletins, prepare supply and equipment lists, authorize transfers, arrange teachers' meetings, co-operate with social agencies, evaluate pupil progress by means of tests and surveys, and carry on general supervision of the classrooms. The administrator should require supervisors to keep him informed of the newest developments in the specialized fields and make appropriate recommendations for changes and improvements in the program. Principals of special schools need special training because they also have supervising responsibilities. Special schools should be staffed as adequately as the regular grade schools with special pupil-accounting devices adapted to the smaller classes.

Since the teaching of exceptional children is a difficult and tedious process, many school administrators have offered a small bonus to special-education teachers. In the early days of establishing special classes, the teachers had to go to distant institutions for their training, and the courses were far in excess of the number required for regular work. Now, most large cities require that all teachers have at least a bachelor's degree in education, and the kindergarten teacher is probably as well trained as the high-school teacher. Many of these cities, especially those with a single salary schedule, have discontinued the bonus. The special services, however, which exceptional children require for their growth and development seem to justify some additional compensation. Special pupils usually come from a much larger district than a regular grade group, and their noon care and the fact that many home calls must be made to understand the conditioning of the child add many hours to a trying day.

Special teachers, like other members of the school staff, should be responsible to the principal of the building. The teachers of these groups



should accept the same building responsibilities and duties as do regular grade teachers. The exceptional children, too, should be made to feel that there are no special rules for them and that, as far as possible, they may participate in all school activities.

Until an adequate supply of specially trained teachers is available, the administration should provide for in-service training of teachers. A good elementary teacher with additional training may become a fine special-education teacher. Extension courses may be arranged with near-by colleges and, if necessary, the supervisor can teach the theory and techniques of special education in teacher's meetings and institutes. The supervisor should keep the teachers informed of the newest literature in the field, and workshops should be organized so that the different members of the staff may work and learn together.

### The Guidance and Pupil Development Program

The administration should accept the responsibility for providing a program for exceptional children which is comparable to that given normal children, with additional services to provide for their exceptional needs. Although these needs differ among the various classifications, the final goals are the same for all children—good personal adjustment, ability to co-operate with others, acceptance of civic responsibility, and vocational efficiency. Since physical and mental handicaps tend to slow up the training process, extra, not less, time of school attendance should be required of exceptional children. If average and bright pupils find it necessary to remain in school long enough to get sufficient training, surely the handicapped child would need more rather than less time for his developmental experiences.

The educational program in each area should be determined and provided upon a complete study of the individual child: (a) his physical condition, (b) his capacity for learning, (c) his school record, (d) his social adjustment, and (e) his aptitudes and interests. The program will differ as the children differ, but some general classifications and groupings are possible. Through parent education and the services of the medical group, much can be done to remedy physical defects, teach better health habits, and establish conditions that will promote the physical development of children. Proper lighting, sufficient drinking fountains, adequate play facilities, and building insulation to decrease vibrations and noises tend to increase the efficiency of the school program.

Although at times it seems necessary to place all handicapped children in one building, probably a better social adjustment results when the children of a given neighborhood can learn and play together. The normal children learn to make adjustments to the child who has to limp

along or the one who feels but does not see his way. The exceptional child finds self-satisfaction in belonging with his out-of-school pals. The need of expensive equipment, transportation problems, and certain building requirements such as ramps or elevators for crippled children make special buildings unavoidable at times. Parents will accept such adjustments if the program is well co-ordinated with the general school plan.

The descriptive terms or symbols used in designating classes may contribute to misunderstandings and confusion. If such a title as "retarded," "mentally handicapped," or other descriptive title is employed, it shocks the sensibilities of both parents and pupils and builds up a resistance to an acceptance of the class. Classrooms might better be labeled by a number, section, the teacher's name, or the term of "special opportunity." The designation of sight-saving, Braille, speech improvement, and open-air or open-window classes is usually much more acceptable to both pupils and parents. Since there are variations of health and performance from time to time, specific labels should be avoided as much as possible and the terminology of technical classification of handicaps should only be used for budget purposes.

The program in the special classes should be adjusted to the individual child and should represent a definite plan for his progress and promotion. Although he must spend much of his time with this special teacher because of his disability, he should have contact with the regular classes whenever this is possible. Parents often complain that their children are being deprived of opportunities to participate in the activities they enjoy because the special teachers insist on extra time for academic subjects. Whenever possible, handicapped children should be included in the art, music, and health programs of the schools. Such training carries over into adulthood and makes it possible for exceptional children to share some of the common cultural patterns of their communities. Frequently the pupils in special classes come from several school districts. It is important that they be considered a part of the school in which the class is located and that the principal assume full responsibility for their membership in his school by providing an acceptable program and good working conditions.<sup>3</sup> This makes for increased security for both teacher and pupils.

Some definite plan must be set up to measure the growth of special pupils. In some cities a yearly progress report is prepared by the teachers. The gain is measured by standardized tests as well as by subjective eval-

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<sup>3</sup> William C. Reavis, Paul R. Pierce, and Edward H. Stullken, *The Elementary School: Its Organization and Administration*, p. 14. Chicago: University of Chicago Press, 1931.

uations of improvement in citizenship and interest. It is advantageous to have these progress reports prepared in duplicate, the supervisor or administrator receiving one copy and the teacher retaining the other. Such records provide objective evidence of the child's growth. There is still much experimentation to be done in developing a satisfactory scheme of classification for the mentally handicapped children. Supervisors of this group should be able to evolve a system based on age or years in special class or on units of work which would not characterize the work of the fifteen- or sixteen-year-old pupils as of only fourth-grade level. Since we know that many of these pupils make acceptable adjustment in the community when their daily work is not concerned with reading, spelling, and arithmetic, it is imperative for the child's mental and social well-being to find some way to decrease the discomfort or shame he experiences on account of his disabilities.

### Curriculum

The administration should keep abreast of changing conceptions of education as they pertain not only to normal but also to exceptional children. The goals of education are the same for all children, but the curriculum for exceptional children needs to be specially designed because of their disabilities. It is not, however, to be conceived of as a modified plan of regular education but as a unique program planned in terms of the needs of a particular group or an individual child. Such a program should be co-ordinated with the everyday living and needs of the pupils.

The suggestion has been made that exceptional children should participate in regular grade activities. In a special group where there are many grades as well as a wide range of ages, it is impossible for the teacher to give them a complete program without some help from the regularly organized grades. Children are stimulated by taking part in group activities; they learn from each other. Therefore, the sight-saving pupil, the child physically under par, the child not too crippled to participate or too deafened to respond, and the speech defective will profit much by contact with regular groups of pupils.

The special-class teacher has at least limited opportunities to make it possible for an exceptional child to function in a regular classroom. The sight-saving teacher may prepare lessons in large type when such materials are needed or may demonstrate correct sight-saving procedures that will reinforce the pupil's learning experiences. The teacher of lip reading should contact the regular grade teacher to explain the child's need for individual adjustment as well as for instruction in speech reading. The speech correctionist may give training in improved speech

habits and patterns and should encourage teachers and parents to continue this training in the regular classroom and in the home.

There are, of course, curriculum adjustments which apply to specific groups. In most sight-saving classes, typewriting and manuscript writing are accepted practices; crippled children have a great deal of manipulative experiences, such as weaving, jewelry-making, and ceramics; and the deaf devote a large amount of time to language development.

### Housing the Special Programs

Cities have met the problem of providing for exceptional children in various ways. Usually schools are remodeled or special schools are built because of needed safety measures and necessary adjustments for treatment and care of those who are crippled. Some cities also provide special buildings for open-air schools. The administration should consider carefully the housing and special programs for exceptional children in terms of what is best for all children. The physical plant for special education should be as modern as that for the normal groups. Good lighting, good ventilation, attractive surroundings, and plenty of playground space are essential. The placement of exceptional children in old, elementary-school buildings is a mistake because neither the parents nor the children are happy over the transfer of special classes from a modern school to an old, out-of-date building. Parents rightly feel that the special school should include all of the facilities that are offered to children in other schools.

It is considered good practice to organize special units in elementary or intermediate schools. The special pupils have their own specially trained teachers for their academic subjects but are included in the normal extra-curriculum activities of the entire school. It is recognized that conditions will vary in different communities. The only fair criterion is to make sure that the child has the best possible arrangement for his growth and development wherever that may be. If the child is the first consideration in planning for housing and care, few mistakes will be made in the building program. Usually, state departments of education are able to give excellent advice on building plans for special education and equipment.

A program of special education brings special problems and special responsibilities to the administration. The lunch problem must be adequately met if pupils come from long distances. In large cities such lunchrooms are a part of the school program, but in smaller cities it may be necessary to develop plans involving the help of the parents. Since health is a great factor in school progress, every effort should be made to provide at least one hot, nourishing dish at noon. Additional milk may

be supplied without making the program too costly or too difficult to manage. The administration should keep abreast of changing conceptions in health education and make possible an extension and development of the program in terms of the most recent knowledge in the health field.

Transportation to special-education centers must be provided, at least in the larger cities. Sometimes it may be advisable to purchase school buses; sometimes the local transportation system may be utilized on a mileage-cost basis. A careful study should be made of the available transportation facilities of the community, with due consideration for economy and safety. An adequate budget should be established so that regular school attendance of the handicapped is assured.

### Adaptations To Meet Needs of Smaller Communities

Handicapped children living in sparsely settled rural communities or in isolated areas need special educational, medical, and social services as much as those living in cities. However, the problem of providing these services is much more difficult in rural areas. Medical services are often lacking and welfare and child-guidance resources are usually inadequate. It is extremely difficult to arrange special classes and expensive services for one or only a few children. In some instances these children have no opportunities for adequate training except as provided by a state residential school. Due to the reluctance of parents to permit their children to be taken from the home, many handicapped pupils do not have the benefit of residential-school training. The problem has been solved in some areas by arranging for boarding or foster-home placement in near-by larger cities where special-education facilities are available.

Another method of meeting this difficult situation is to provide transportation from districts which are unable to provide special education to districts with established programs and adequate facilities. Although some disabled children are subjected to hardships in transportation, the child does enjoy the advantage of being permitted to live and develop in his own home. Considerable improvement in providing for those exceptional children in isolated communities should result from the nationwide trend toward reorganization of school districts into larger units.

### ORGANIZATION AT THE STATE LEVEL

#### State Responsibility

The federal constitution leaves to the states the rights and powers of education. Most states specifically recognize and accept the responsibility in their own constitutions.

*Constitutional and Statutory Provisions.* The state constitutions accept the responsibility of providing educational opportunities for "all the

children." There is no exclusion of the handicapped; no tempering or lessening of the responsibility as it may apply to the seriously handicapped or those with very unfavorable prognosis. "All the children," then, means every child.

The statutory provisions furnish the legal pattern for carrying out the mandate of the constitution. The school code determines how educational funds shall be raised, how districts shall be organized, how officials shall be chosen, and in many other ways establishes the pattern for public and private school programs. The statutes provide the basis on which state, county, and district school offices are conducted.

*Studying the State Needs.* In a complex and changing social order the chief state school officer is generally confronted with the responsibility for surveying and studying the educational needs and problems of the state. The state office is much more than an agency to administer existing laws. The duties of supervision, integration, and leadership are equally compelling.

### The Legal Pattern

Most states have found it necessary to provide definite legislation to encourage or establish special-education opportunities. This legislation then becomes a pattern for state departments and local districts to follow.

The constitutions of most states with the accompanying statutory provisions for regular schools contain all the authority needed by local districts to establish special schools, classes, and services for exceptional children. Actually, however, it is observed that relatively few districts establish a special-education program until additional legislation is provided; and it seldom develops to any great extent until the state demonstrates a willingness to subsidize it. Along with the appropriation of state funds for special education there are always additional laws setting up regulations of programs that receive state aid.

*Defining the Exceptional Child.* In formulating special legislation it is necessary to designate the type of pupils to be considered as the exceptional children eligible for the program. This is most important. The states have not included the gifted child in this category when making extra funds available. Many states have provided for the physically handicapped, but some have limited the program to certain types, such as the orthopedically crippled and the cardiopathic, and made no provision for others, such as the epileptic or the children with low vitality. There is increasing interest on the part of many states in providing special legislation for the benefit of the mentally retarded, the emotionally and socially maladjusted, and those in need of remedial or special educational services in reading and other skills.

Definition should go further than naming the categories of exceptional children. There are dual and multiple handicaps in many cases. Educators are agreed, for instance, that a suitable program for physically handicapped children with low mental ability cannot be satisfactorily developed in the same room with children of normal mental ability. The problem of educating deaf children is quite different from that of dealing with the hard-of-hearing. The aphasic child cannot be handled in the speech-correction class with those having only articulatory difficulties.

Definition in the law is important to school administrators in setting the local pattern.

*Finding the Eligible Children.* The ordinary school census is of little help to the administrator planning his special-education program. A simple enumeration of names, ages, and addresses does not tell how the child is handicapped, the degree of handicap, and other facts necessary in planning a program.

No special-education legislation is complete unless it makes adequate provision for finding the children for whom special programs are needed.

*Making the Responsibility Mandatory.* Although most state constitutions provide that educational opportunity shall be made available to "all the children," the history has been one of neglect of opportunity for many exceptional children until special legislation was enacted. Educational opportunity is not available to the mentally handicapped child if he must compete on the same level with normal children. Educational opportunity for the deaf child is lacking if he does not have the skilled services of a teacher who understands the methods and techniques of helping him develop speech, language, lip reading, and social adjustments.

If the responsibility of the state and local district is interpreted as merely permissive, there may be neglect and denial of opportunity to many children unless vigorous leadership is supplemented with adequate financial support.

*Establishing Classes and Services.* Special legislation for the education of exceptional children generally sets the pattern for the educational program in the local district. Other legislation in most states provides for special educational opportunities in their state residential schools. But in both cases the resulting program is generally subject to direction by some state office that has the power to make regulations for putting the law into practice. It is not enough to provide special classes and services without determining the standards for evaluating the services and realizing the objectives of the legislation.

Establishing special classes and services for exceptional children is not merely a matter of grouping children or removing them from the regular

grades but of actually providing facilities that will enable them to make the needed personal, social, and vocational adjustments.

*Providing Financial Assistance.* The costs of special education vary from two to five times the cost of educating average children in regular classes. These costs are due to necessary small enrolments, special equipment and supplies, special teacher training, and other supplementary services not usually needed for normal children. The program is best fostered in those states that share the expense with the local district. The policy is generally one of assisting the district to the extent of the excess cost. The method of meeting the excess cost varies in different states. In some it is the appropriation of a specified sum; in others it is a partial contribution to the teacher's salary; in others it is based on a formula for comparing the costs of special and regular education.

It is considered sound educational planning to interpret state financial aid as a means of assisting the local district to furnish adequate educational opportunity to its exceptional children. Without state financial assistance the permissive legislation will likely be ineffective. It should strengthen and not weaken the fundamental responsibility of the local district.

*Directing and Supervising the Program at the State Level.* All states providing special funds for supplementing district funds in a program of special education usually set up regulations for supervising and directing the program on the state level. These regulations provide for setting the standards of eligibility of pupils for admission to special classes as well as of teacher training, class load, and minimum special equipment and supplies. Also, the required reports and certain other factors in an approved program are sometimes specified.

The state function thus becomes one of helping the local district provide special-education classes and services on a level of greater efficiency.

### Public Day Schools and State Residential Schools

The first acceptance of state responsibility for the education of exceptional children was expressed in most cases through the organization of state schools for such types as the deaf, the blind, the mentally handicapped, and the epileptic. More recently there has been some development of state institutional training for additional classes of physically handicapped children. The last quarter of a century, particularly the last decade, has seen great impetus given to establishing special-education classes and services in the day schools conducted by local public school districts. It is most important to remember that both the state institutions and the local day schools are working for the same objectives. They have one and the same responsibility—to help the exceptional child



develop so as to attain to a happy and useful membership in society. The two programs must not become competitive. They must be complementary and part of the total program of education of the state.

Recent educational and social philosophy has emphasized the fact that formal education is but one part of the total educational process. The right of a child to grow and develop in optimum family and community relationships is paramount. This is especially significant with handicapped children who may be greatly hampered in achieving this normal relationship. Unless every effort is made to help them secure special opportunities, the formal educational program may only widen the breach between them and normal social relationships.

On the other hand, the state institutions are usually able to provide types of services which are not often available in small day-school programs. Pupils may be better grouped according to age, abilities, and needs. Medical, psychological, and social services are easier to organize for a large group than for a small one, and it is possible to provide a greater variety of vocational-training opportunities.

In our complex social order, some children can be best served in a local school program and others in the institutional organization. The child will be best served when both agencies recognize this fact and cooperate in a policy of carefully studying each individual case to determine the best opportunity for each individual child.

#### Administrative and Supervisory Services

The interest at the state level in the program of educating exceptional children is expressed in the willingness to appropriate state funds to supplement district expenditures in meeting the increased costs of the program. Granting financial aid is accompanied by regulations to insure the best possible use of such money.

The plan of designating the state authority for administering and supervising the plan varies in different states. In most cases the authority is placed in the state education office with responsibility for the supervision of both the educational and the financial phases of the program.

The chief administrative responsibilities at the state level are concerned with: (a) reports used in making applications for classes and services, claims for reimbursement, and forms for reporting required data for evaluating the program; (b) regulations concerning the eligibility of pupils and the manner of admission to special classes, the curriculum and qualifications of teachers, the size of classes, physical features of classrooms, and special equipment and instructional supplies; (c) regulations pertaining to special features of the program, such as transportation, medical and psychological services, and time schedules.

### Integration of State-wide Services

All states now maintain a variety of services in the interest of exceptional children. These are both publicly and privately supported and represent agencies interested in the care of children, including preventive and treatment programs, home visitation and advisory programs, and such other services as clinics conducted by public or private organizations, vocational rehabilitation, medical care, child guidance, camps for handicapped, and health surveys.

The state has a responsibility for the integration of these varied services so that the child in need of them can be served to best advantage.

### Teacher Training and Recruitment

As local districts and states accept the responsibility for providing special education for exceptional children, the need of teachers with special training for these challenging problems becomes apparent. It is important that special education be regarded as a professional service and not as merely a device for more conveniently grouping children for instruction or for providing physical care. Special education becomes specialized only as persons trained in the special philosophies, methods, and techniques are provided for this task. This makes it necessary for universities and colleges to provide adequate teacher training in the various fields of special education. For teacher-training institutions supported by states or for school districts in which special-education programs are required by law, such training becomes an inviolable responsibility. Also, it is important to note that the problem of teacher training is closely related to the state regulations applying to special-education programs required in the schools.

The problem of recruiting young people for service in the field of special education can be solved to a large extent by co-operative effort on the part of local school officials and teachers to direct high-school graduates into the field. Vocational-guidance leaders in high schools can help by becoming acquainted with the opportunities and requirements for special-education teachers. The problem of teacher training and recruitment does, however, require some direction and a great deal of attention at the state level. It cannot be separated from the other administrative and supervisory responsibilities of the state department of education.

### CONCLUSION

The challenge to administration as we face the problems of special education for exceptional children grows out of those principles of American democracy that recognize the rights and opportunities of all the children. Medical skill in the care of the handicapped must not be permit-

ted to outdistance the growth and adjustment services for them that are directed by the schools. The history of our schools is one of successful attack on the problems that concern the welfare of our children. The hand of school administration holds the throttle that will move the machinery of progress so vital to several million children who, without special education, will be denied their rightful heritage. The responsibilities of the school administrator are varied. A significant part of the administration rightly belongs to the exceptional children, and the administrative services should be proportionately directed toward the solution of their educational problems.

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# CHAPTER III

## IDENTIFYING AND DIAGNOSING EXCEPTIONAL CHILDREN

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### INTRODUCTION

A satisfactory plan for the education of exceptional children presupposes a program of diagnostic testing. Since there are many kinds of exceptional children, many kinds of tests and testing procedures must necessarily be used. These measuring devices range from group survey tests and observation schedules which may be administered by persons with comparatively little training to complex and technical examinations to be administered by clinical psychologists, psychiatrists, and other medical specialists as, for example, ophthalmologists qualified to diagnose and to treat diseases of the eyes. The diagnostic testing is needed not only to find the children who need special types of training but also to prescribe various types of treatment for physical corrections or to interpret the proper educational procedures in the classes or schools for exceptional children.

The program of diagnostic testing is related to the testing programs for children in regular classes. The general health inspections for all children, the surveys by means of educational achievement tests or group mental tests, and the general mental-hygiene programs disclose the status of the school population in those areas. They also furnish some important clues for finding the exceptional children. This chapter outlines general survey procedures in these four areas. These procedures can be

carried out in the main by less thoroughly trained staffs than those to be described in the discussion of the problem of individual diagnosis. However, the administration of educational and mental tests and the group personality and mental-hygiene programs should be under the general direction of a clinical psychologist with a staff of examiners trained in psychological testing. Nurses under a physician's direction should follow up and verify any health inspections conducted by teachers.

In the discussion of the more detailed program of individual diagnosis, specialized types of tests or examination schedules are discussed which have been devised for the different types of exceptional children. Highly trained technicians, clinical psychologists, and medical specialists are needed for the various services involved in the diagnostic program. This discussion is of general interest to teachers and to school administrators because of the information it provides regarding the equipment and supplies and the trained personnel necessary for adequate individual diagnosis. It is primarily a general guide to the trained testing and diagnostic personnel operating in these areas.

#### LEGISLATION AND AUTHORIZATION

All of the forty-eight states make some type of legal provision for the health examination of school children. The nature and extent of these services is described in a bulletin of the United States Office of Education.<sup>1</sup> Two states did not report, but the other forty-six reported having state laws either making health service mandatory or permissive, in which twenty-nine were mandatory, fifteen were permissive, and the remaining four had combinations of such requirements.

In fifteen of the states, joint responsibility was assigned to educational and health authorities; in twelve responsibility was specifically assigned to education; in eight, to health; and in thirteen, there was no definitely specified responsibility in the law except that it be left for administration by local authority. In thirty-four of the states the local authority was primarily assigned to education, the remainder chiefly to health or to joint responsibility with health.

In twenty of the forty-eight states annual examinations are indicated, three states have biennial examinations, two have three-year examinations, one provides for periodical examinations, and the remaining twenty-two states furnish no information.

<sup>1</sup> *State Administration of School Health, Physical Education, and Recreation*. United States Office of Education Bulletin No. 13, 1947. Washington: Government Printing Office, 1947.

The examining staffs represented a variety of agents or individuals as follows:

Examining Staff	No. of States
Physician or health inspector . . . . .	8
Physician and teacher . . . . .	11
Physician and nurse . . . . .	5
Physician, nurse, and dentist . . . . .	3
Physician, nurse, and teacher . . . . .	4
Teacher . . . . .	6
Dentist . . . . .	2
Nurse . . . . .	2
Not listed . . . . .	5
Total . . . . .	46

The extent of examination specifically noted was limited chiefly to sight, hearing, teeth, mouth breathing, a few to general health conditions, and a few mentioned specifically only communicable diseases. The state of Pennsylvania has one of the most thorough plans with health examinations in the odd-numbered grades in all public and private schools. An appropriation of four million dollars was made to carry out these provisions with the law administered jointly by the departments of education and of health.

It is also interesting to note that approximately one-half of the states had participated in the W. K. Kellogg Foundation project involving certain areas of these states in which the health examination was one of several important parts of a community project involving recreation, community planning, and allied activities.

#### GROUP SURVEYS AND INSPECTIONS

This section deals with group surveys of achievement or of intelligence and with inspectional procedures for the detection of gross physical and sensory defects. Four types of measures will be discussed as follows: (a) educational; (b) mental; (c) health; and (d) mental hygiene and personality.

#### Educational Achievement Tests

It is a common practice, particularly in the larger cities, to give standard educational tests to all elementary-grade pupils in the three-R subjects. Many school systems devise their own short survey tests of this type and use them for initial and final testing. From time to time some school systems make general surveys of educational achievement. The Stanford Achievement Test<sup>2</sup> and the Public School Attainment Scales<sup>3</sup>

<sup>2</sup> Available through the World Book Co., Yonkers, New York.

<sup>3</sup> Available through the Public School Publishing Co., Bloomington, Illinois.

are among those commonly used. Comparisons are often made between school systems or between schools within the same system.

The results of such tests have some significance in finding handicapped and other exceptional children, since both the low scores of many of the physically and mentally handicapped children and the high scores of gifted children are likely to attract attention. These group educational tests are only one of several means of finding exceptional children. Obviously, the results must be verified by more detailed and scientific diagnostic testing.

### Group Mental Tests

Group mental tests are used in a similar manner for general surveys of school populations. The National Intelligence Tests, Otis Tests, Terman-McNemar, and Pintner General Intelligence Tests<sup>4</sup> are among those commonly used. Many of the larger school systems, such as Detroit, construct their own group mental tests.

During the school year 1948-49, eleven of the larger cities gave the language edition of the Pintner General Intelligence Test and the Stanford Achievement Test to all pupils in the beginning seventh grade. In addition to the establishment of more comprehensive norms, such testing programs stimulate the study of children as individuals.

There is always an inherent danger that handicapped children will be rated incorrectly because of their handicaps, but if the results are cautiously evaluated and if they are used as a starting point for special study and attention to the needs of the children, their purpose will have been served.

### Health Inspection

In the field of general health, including physical and sensory defects, most of the preliminary survey must be made by individual examinations rather than by group methods such as are employed with educational and intelligence tests.

The chief exception to the individual method is the group test of hearing by the 4-A Audiometer.<sup>5</sup> Each pupil of an entire classroom is fitted with a pair of earphones and provided with paper and pencil. The phonograph audiometer transmits the human voice from an instrument similar to a Victrola, with gradually decreasing degrees of loudness. Numbers are spoken from the audiometer first into the right ear, then the left ear, and each pupil is to record what he hears. The sound record presents first a woman's voice and then a man's, so that four tests are available. By scoring the papers it is possible to determine at what point

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<sup>4</sup> Available through the World Book Co., Yonkers, New York.

<sup>5</sup> Available through the Western Electric Co., New York City.

the hearing is no longer functioning successfully. The numbers are of short span so that failure would not likely be due to lack of mental ability. Of recent date a pure tone audiometer has been invented and is now being used for group testing.<sup>6</sup> These results do not furnish an exact diagnosis of hearing defects or of their causes, but they provide a potential list of suspected cases for further examination and diagnosis by more refined individual methods.

Many school systems have programs of health and physical inspection which are conducted by individual methods. They are usually given to beginning pupils and periodically throughout the ensuing grades.

The Detroit Department of Health has issued a guide for teachers.<sup>7</sup> It lists evidences of good health as follows:

Growth . . . . .	suitable to body-build, showing a reasonable annual increase.
Energy . . . . .	ample for individual needs.
Skin . . . . .	clear, free from infection.
Mucous membranes . . . . .	clear and definitely pink.
Hair . . . . .	clean, lustrous, free from infestation.
Eyes . . . . .	bright, clear, moving normally.
Nose . . . . .	unobstructed in breathing.
Teeth . . . . .	well formed, free from caries, clean. Gums firm and light pink with no tendency toward bleeding.
Breath . . . . .	absence of disagreeable odor.
Posture . . . . .	symmetrical position of the body on "standing erect," and good muscular co-ordination.
Bones . . . . .	strong and well built. Head and chest well shaped, arms and legs straight.
Muscles . . . . .	firm, capable of free movement.
Subcutaneous tissue . . . . .	fat layer beneath skin, firm, good tone.
Speech . . . . .	normal development, free from disorders.
Nervous condition . . . . .	free from involuntary twitchings and other nervous signs or symptoms.

Inspection is made in thirteen specific areas as follows: skin, nutrition, endocrine, tonsils, nose, teeth, cervical glands, heart, lungs, orthopedics, speech, vision, and hearing.

The code for this screening process is as follows:

- 0—Normal or no defect.
- 00—Corrected.
- T—Under treatment.

<sup>6</sup> See chapter ix for fuller description of testing procedures.

<sup>7</sup> *Guarding the Health of Students*. Detroit: Detroit Department of Health, 1946.



- 1—Slight deviation from normal. No follow-up is indicated.
- 2—Defect severe enough that follow-up or correction is needed.

A sample of the orthopedic inspection is as follows:

Signs suggestive of orthopedic abnormality:

- Uneven position of shoulders or hips
- Peculiar gait, posture, or use of hands or feet
- Difference in size of arms or legs
- Muscular rigidity or inco-ordination
- Deformities of any kind

The presence of one or more of these signs should be indicated, using code to show the extent that it is noticeable. For example: 1—Slightly noticeable, 2—questionably noticeable.

### Mental Hygiene

For many decades teachers have made lists of the pupils who have shown behavior and personality deviations. These deviations have usually emphasized aggressive rather than recessive traits, although the latter are also known to have serious implications.

Surveys based on the results of personality tests have been confined largely to children with known deviations instead of being administered to all children. Most other testing has been determined by the interest and initiative of individual classroom teachers. Much more extensive use of personality tests, case history, and individual interview techniques have been made on individual children. These will be described later in this chapter.

### INDIVIDUAL DIAGNOSIS

Although the various group surveys and inspections listed above are valuable as initial steps in discovering exceptional children, the final diagnosis should usually be done on an individual diagnostic basis. This program should be conducted by clinical and diagnostic personnel at the higher levels of graduate training, having the Ph.D. or an equivalent degree in the nonmedical areas and the M.D. degree for service in the area of the physical and sensory defects or in the area of mental diseases.

The following sections of this chapter outline some of the chief individual diagnostic procedures in order to give school administrators some general guides to their thinking in these fields as well as to furnish a brief review to the trained personnel in these diagnostic areas.

The four chief areas applicable to various types of handicapped and exceptional children include: (a) educational achievement tests; (b) psychological tests; (c) physical and sensory tests; and (d) mental hygiene and personality tests. In these discussions, emphasis will be directed in each area toward the principal type or group of pupils to which the tests or procedures are particularly applicable.

### Educational Achievement Tests

Educational achievement tests for exceptional children are of value in initial educational diagnosis, as a partial guide to instructional procedure, and for measuring educational progress under programs of special education. Some types of handicapped children are capable of taking the regular forms of available tests but others cannot do themselves justice in these examinations because of the nature of their handicap. Some of the latter will now be considered.

*The Visually Handicapped.* There are various degrees of visual handicaps, ranging from slight deviation from normal vision to complete blindness. Accordingly, educational achievement tests for the visually handicapped must vary as to both the method of test administration and the test format. For the partially seeing pupils, some of the standard tests are printed in large type.<sup>8</sup> Publishers are usually willing to grant permission for reproducing small quantities of their tests in large print.

Dr. Samuel P. Hayes makes some interesting suggestions for group testing of blind pupils.<sup>9</sup> For example, he suggests the use of "C" and "I" instead of the traditional "T" and "F" to avoid copying. He considers the multiple-choice form much better than that of matching items and suggests that time can be saved and fatigue avoided if a good many tests are administered orally.

In the Myers-Ruch High School Progress Test,<sup>10</sup> Hayes had the examiner read the incomplete sentence and five possible choices. The pupil read these choices in Braille, then the examiner re-read the statement and the pupil indicated his choice.

To save time on the Stanford Achievement Tests, intermediate and advanced series, a four-page pamphlet was prepared with embossed dots arranged in columns to correspond to the five possible answers for each question. Each question was read two or three times if necessary and the pupil drew a line through the appropriate dot. This, of course, automatically excludes the use of time limits. With all of these changes in procedure, we are faced with the question of the extent to which norms for subjects with normal sight are applicable to the blind. Hayes believes that the same norms can be used but that further studies should be made. At any rate, comparisons among blind children would be valid if Hayes' suggested procedures are followed.

*The Auditorially Handicapped.* Theoretically it would be possible to

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<sup>8</sup> The Stanford Achievement Test is published in large type.

<sup>9</sup> Samuel P. Hayes, "New Methods of Testing the School Achievement of Blind Pupils," *Outlook for the Blind*, XXXVII (1943), 277-82.

<sup>10</sup> Available through the World Book Co., Yonkers, New York.

administer any standard achievement test to deaf children and make comparisons between the deaf and the hearing subjects. However, we must always take into consideration the fact that a language handicap does exist, and this fact must be taken into account when making such comparisons. For certain purposes it might be desirable to work out separate norms for the deaf; and still further, it would be desirable to construct tests for the deaf which would follow closely the curriculums of schools for the deaf.

Many commonly used standard tests have been used to test the achievement of the deaf. Pugh studied the reading of acoustically handicapped children,<sup>11</sup> using the Iowa Silent Reading Test and the Durrell-Sullivan Achievement Test.<sup>12</sup> The tests were administered to a large number of deaf children with very good results.

The Keys-Pedersen Visual-Language Tests were constructed specifically for the deaf and are intended to cover the earlier language achievement of these children. Some progress has been made in developing standard tests of lip reading, but further experimentation in this area is needed.

*The Crippled.* The handicaps of the crippled are so varied that no attempt has been made to set up special achievement tests for this group. Simple adaptations can be made to suit the needs of individual children.

*Other Types of Handicaps.* Pupils of lowered vitality are usually able to take the educational achievement tests of their grade, if suitable rest periods are provided as needed. The mentally retarded may be tested with materials suitable to their grade and mental age. Since speech-correction cases usually receive their major educational instruction in regular classes, they are likely to be tested with their regular classes. The speech teacher may, however, give additional tests as a check on progress in speech correction. The behavior-problem pupils are particularly in need of suitable educational achievement tests since they seldom worked up to expected levels for their mental capacity before special study of their difficulties was undertaken.

*The Gifted.* It is very important to give educational achievement tests to gifted children in order to determine the general level of their achievement as well as to discover the areas of greatest strengths and weaknesses.

### Psychological Tests

While considerable progress has been made in developing new intelligence tests or in adapting existing tests for use with various types of

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<sup>11</sup> Gladys S. Pugh, "Appraisal of the Reading Abilities of Acoustically Handicapped Children," *Journal of Exceptional Children*, XIV (October, 1948), 10-14.

<sup>12</sup> Both are available through the World Book Co., Yonkers, New York.

physically handicapped children, current practices in the testing of handicapped children leave much to be desired. One basic principle in the selection of tests, which is too often violated, is that of the suitability of the test for the particular child to be studied. Many of our tests assume normal language development, yet many of our handicapped children do not develop normally in this area. The child who acquired a severe hearing loss at an early age has been deprived of a normal opportunity to learn language. The congenitally crippled child who has been hospitalized for a long time during the first three or four years of life may be considerably handicapped in this area, not because of inability to develop language skills but because his opportunity to learn has been limited. While the blind child learns language much as the seeing child does, he may be placed at some disadvantage if he must read directions or test items in Braille.

Certain children with speech problems may have good language ability but be so handicapped in speech that oral responses are difficult or impossible. The performance test which is excellent for the deaf child or the child with a speech defect may be quite useless with the blind child and with certain crippled children. The problem becomes most complicated in the case of the cerebral-palsied child, who often suffers from several handicaps.

Frequently, severe defects are so apparent that the examiner recognizes them easily. Yet in many cases the defect is not noticeable. Psychologists are not always sufficiently trained in recognizing symptoms of eye and ear defects, and unless medical findings and other pertinent data are available there may be unwise test selection. For example, a child who has a severe hearing loss but has learned to read lips well may appear to the uninitiated to have normal hearing and, therefore, be given a Binet test or some other highly verbal test without supplementary nonlanguage testing. The handicap of the partially seeing child may not be recognized, and, as a result, he may be given a test which he fails because of faulty vision rather than because of some other disability.

*The Visually Handicapped.* Dr. Samuel P. Hayes has contributed largely to the testing of the blind. His early adaptation of the Stanford Revision of the Binet Scale has been followed by the Interim Hayes-Binet Intelligence Tests for the Blind.<sup>13</sup> This consists of a selection of items from Forms L and M of the Terman-Merrill Revised Stanford-Binet Scale<sup>14</sup> together with a few items from the earlier Hayes-Binet.

As an alternative scale for blind adolescents and adults, Hayes recom-

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<sup>13</sup> Available through the Perkins Institute for the Blind, Watertown, Massachusetts.

<sup>14</sup> Available through the Houghton Mifflin Co., Boston.

mends the Wechsler-Bellevue Scale.<sup>15</sup> The five verbal tests and the vocabulary test can be used with the blind with practically no change.

Because group tests for the blind must be embossed in Braille, they are so expensive and unwieldy that the individual tests are usually preferred. Fortner developed an adaption of the Kuhlman-Anderson Intelligence Test for Grades VI to IX.<sup>16</sup> The Otis Classification Test was used as the basis of a test designed by Sargent.<sup>17</sup> Hayes has similarly used the Pressey Mental Survey Test.

Little has been published concerning intelligence tests for partially seeing children, although apparently a number of people have experimented with enlargements of some of the Binet material. The most careful study of such a plan is that of Pintner,<sup>18</sup> who tested 602 children in sight-saving classes with forms L and M of the Terman-Merrill Revision of the Stanford-Binet. Both standard and enlarged materials were presented. Pintner concluded that some children in sight-saving classes may be handicapped by the standard test material and for that reason advises the use of enlarged materials.

In the Detroit Psychological Clinic enlarged materials from the earlier Stanford-Binet have been used. At present certain nonvisual tests from the nineteen-test battery of the Detroit Tests of Learning Aptitude<sup>19</sup> are also being used.

*The Auditorially Handicapped.* In 1915 Pintner and Paterson<sup>20</sup> attempted to use the Goddard Revision of the Binet-Simon with deaf children. As a result, they concluded that the inherent language handicap of these children makes it desirable to use test items which do not require the use of language. There followed a good deal of experimentation which resulted in the construction of the Pintner-Paterson Performance Scale, a shortened form of which has been used widely with deaf children. Others became interested in performance scales, and, at present, several are being used with deaf children.

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<sup>15</sup> David Wechsler, *The Measurement of Adult Intelligence*. Baltimore, Maryland: Williams & Wilkins Co., 1939.

<sup>16</sup> Ethel N. Fortner, "A Group Intelligence Test in Braille," *Teachers Forum (Blind)* XI (1939), 53-56.

<sup>17</sup> R. Sargent, "The Otis Classification Test," *Teachers Forum (Blind)*, IV (1931), 30-33.

<sup>18</sup> R. Pintner, "Intelligence Testing of Partially Sighted Children," *Journal of Educational Psychology*, XXXIII (1942), 265-72.

<sup>19</sup> Available through the Public School Publishing Co., Bloomington, Illinois.

<sup>20</sup> R. Pintner and D. Paterson, *A Scale of Performance Tests*. New York: D. Appleton & Co., 1931.

The Grace Arthur Point Scale<sup>21</sup> is a direct off-shoot of the Pintner-Paterson Scale and has been used in a good many schools for the deaf. Amoss constructed the Ontario School-Ability Examination<sup>22</sup> with the deaf specifically in mind. It has been used successfully in Canada and is now used in a good many schools for the deaf in the United States. The Nebraska Test of Learning Aptitude is an individual psychological examination constructed and standardized on deaf children by Dr. Marshal Hiskey.<sup>23</sup> The Wechsler-Bellevue is also useful for older deaf children, but the language part of the test needs careful interpretation.

In addition to the individual tests, there are some group tests which can be used for screening purposes. Here again, Pintner took the lead with the publication of the Pintner Nonlanguage Mental Test. This is interesting primarily from the historical point of view. However, the Pintner General Ability Test, Nonlanguage Series, is a group test which can now be used from kindergarten through Grade IX. Tests have not been developed specifically for the hard of hearing, but a wise combination of verbal and nonverbal tests should give a good measure of the ability of these children.

In the Detroit program certain nonauditory tests from the nineteen-test battery of the Detroit Tests of Learning Aptitude are used. Various pages of the Detroit Group Mental Tests are used with unlimited time spent on understanding the directions, after which the usual timing for hearing children is used.

*The Crippled.* Handicaps among the crippled group are so varied that it is impossible to prescribe tests for them as a group. Rather, one must appraise the physical handicap of the individual child and out of wide acquaintance with tests choose those most applicable to each particular child.

The cerebral-palsied child presents the most difficult problem of all. One finds all degrees of variation in the individual's ability to respond manually or verbally. Often, there are visual or auditory defects as well. Many tests have been used experimentally, among them, the Stanford-Binet, the Goodenough, the Porteus Maze, and the Wechsler-Bellevue. Inherent difficulties are easily seen. In addition, we have the suggestions of Strauss and Werner concerning disorders of conceptual thinking in the brain-injured child. All this leads us to a position of extreme wariness in the reporting of mental test results for cerebral-palsied children. Surely we cannot report exact mental ages for severely involved cerebral-palsied

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<sup>21</sup> Grace Arthur, *A Point Scale of Performance Test*. New York: Commonwealth Fund, 1930.

<sup>22</sup> Available through the Ryerson Press, Toronto, Ontario.

<sup>23</sup> Test available from author, Southern Illinois University, Carbondale, Illinois.

cases. Sound practice would lead us to sit in conference—the physician, the physical therapist, the speech therapist, the teacher, the parent, and the psychologist. Then, having pooled all the information thus obtained, we could make an evaluation of this child's needs and formulate plans for his care and education.

*Other Types of Handicaps.* The same precautions as to language and oral response tests for the auditorially handicapped are also applicable to speech-correction cases. Likewise, the physical limitations of the lowered-vitality cases must be taken into account in psychological testing. The behavior-problem cases should be tested during periods when their emotional stresses are at a minimum. Many of them have psychopathic personalities; some are prepsychotic, and others are actually psychotic. Well-trained clinical psychologists are needed to evaluate the psychological diagnosis.

The mentally retarded often exhibit irregular mental development which, in addition to their mental immaturity, causes further complication of their learning problems. This condition is reflected in the "scatter" of mental responses over a wide range of mental ages on the Stanford-Binet Test and on the various parts of the Detroit Tests of Learning Aptitude. The presentation of these interpretations to teachers of the mentally retarded has proved very useful in helping them to understand the mental strengths and weaknesses of their pupils.

*The Gifted.* Psychological tests in general use for testing the gifted children may be employed if the standards reach high enough to insure adequate measurement. In the clinical diagnosis of the gifted, unusual special talent may be discovered in some area in addition to the generally high rating in mental maturity.

### Physical and Sensory Defects

The description of this phase of the program includes reference to schedules of informal observation and certain inspectional procedures as well as to the equipment and apparatus used by examining physicians in making a complete diagnosis. Such a program involves the co-operative planning of several services in any community. The observation of symptoms may be reported by teachers, school administrators, parents, or others. The first screening tests may usually be given by teachers who have been briefed in the required procedures or by nurses or school physicians when they are available. In many of the areas the final examination and diagnosis are the responsibility of physicians specializing in particular areas such as hearing defects.

In carrying out these various phases of the program there must be mutual understanding and friendly co-operation among the members of

the staff. Those who do the first sifting should understand that they are not giving a complete diagnosis. They should not be discouraged from further effort whenever the final diagnosis does not confirm their preliminary findings. On the other hand, those who make the final diagnosis should be fully familiar with the specialized school facilities that are available and with the existing programs of special education.

*The Visually Handicapped.* In the field of diagnosis there are two kinds of eye conditions which need attention. One includes defects of accommodation such as myopia or short-sightedness; the second pertains to diseases and disorders of the eyes. The final diagnosis of these conditions is mainly in the hands of medical staffs. The ophthalmologist is a medically trained person legally qualified to diagnose disorders of accommodation and diseases of the eyes and to prescribe treatment for the conditions noted. The optometrist, as the term suggests, is authorized in some states to measure defects of accommodation but is not a man with full medical training. The optician is a technician engaged in the manufacture of glasses according to prescriptions furnished by optometrists and ophthalmologists. Many of the larger optical manufacturing firms employ a consulting optometrist and some of them employ an ophthalmologist. School personnel should be informed regarding the diagnostic facilities that are available in their community.

In the first general screening of children, the Snellen E-Chart is commonly used. It has certain good qualifications but also some limitations. The chart is easy to understand and to administer and takes very little time per child. If the child fails to recognize the various sizes at the prescribed distances or is able to go beyond those limits, as in cases of hyperopia or farsightedness, there should be further examination by more refined methods.

On the other hand, there are many types of visual troubles which the Snellen chart does not diagnose. Children with some defects of accommodation are able to strain their eyes sufficiently for short periods so as to appear normal when tested by the Snellen chart. Also, the chart does not measure the fusion of images from both eyes, and it neglects errors due to astigmatism or to strabismus. It cannot detect diseases of the eye.

The Betts Telebinocular,<sup>24</sup> which has quite widespread use both in schools and in the offices of ophthalmologists and optometrists, discovers defects not only for accommodation but also in the measurement of astigmatism, strabismus, and fusion of the images from the two eyes. The Massachusetts Vision Test, as developed by the Massachusetts Depart-

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<sup>24</sup> Available through the Keystone View Co., Meadville, Pennsylvania.



ment of Public Health,<sup>25</sup> is designed to test keenness of vision and to give evidences of tensions with resulting fatigue, nervousness, poor concentration, and lack of fusion or binocular co-ordination. The authors of this test claim that it may be easily administered by persons who are experienced in handling children.

A second area of screening or inspection, which relates to the partially seeing child, was studied by Hathaway. The following excerpt from the report of this study furnishes a description of some of the effects of defective vision on the behavior and health of the handicapped child.<sup>26</sup>

Behavior:

Walks with extreme caution, looking closely or feeling with the foot for a step up or a step down or for small obstructions; trips or stumbles frequently.

Holds reading material or other types of fine visual work close to eyes or at a greater distance from the eyes than is normal.

Attempts to brush away blur; rubs eyes frequently; frowns; distorts face when using eyes for either distant or close work. Shuts or covers one eye; tilts head to one side or thrusts it forward.

Fails to see distant objects and reading material visible to others.

Is unduly sensitive to light.

Is unable to distinguish colors.

Is unable to estimate accurately locations of objects, hence, frequently runs into them or fails to place object properly.

Fails to see objects not directly within the line of vision, which are clearly visible to the average person, while the eyes are fixed looking straight ahead.

Appearance of eyes:

Red-rimmed, crusted, or swollen eyelids.

Frequent sties.

Watery or red.

Crossed or not functioning together.

Discharge of pus.

Bloodshot.

Complaints due to use of eyes:

Dizziness.

Headache.

Nausea.

Pain in the eyes.

Blurring of letters or objects.

Double vision.

Burning or itching lids.

If there is discharge of pus or pain in the eyes there is need of immediate ophthalmological care.

<sup>25</sup> *Instructions for the Massachusetts Vision Test*. Boston: Massachusetts Department of Public Health, Division of Child Hygiene, 1941.

<sup>26</sup> Winifred Hathaway, *Education and Health of the Partially Seeing Child*, pp. 178-79. New York: Columbia University Press, 1943.

After these earlier stages of inspection have discovered the children in need of further diagnosis, referral should be made to ophthalmologists or to optometrists, depending upon the child's needs and the available services. For defects of visual accommodation, the diagnosticians have special equipment and apparatus such as trial lenses, orthoptic machines, and several others which are beyond the scope and function of school teaching staffs. The ophthalmologists are further qualified to diagnose and treat diseases of the eyes such as glaucoma, trachoma, and cataract.

*The Auditorially Handicapped.* The auditory difficulties which make it necessary to provide special training for some pupils may involve defects or diseases of the ear. The general symptoms of hearing defects may be classified as follows:

1. Physical symptoms: Failure to respond; says "What?" constantly; cups his hand to his ear, moves closer; has peculiar posture; tilts head at unusual angles to get better sound; mouth breathing; running ears, earaches, and noises in head.
2. Speech symptoms: Defects in speech; peculiar voice, often high-pitched and without expression; lack of adequate flow of language; avoids talking to people.
3. School symptoms: Poor general scholarship; poor oral work; generally slow and inaccurate in schoolwork; particularly poor in spelling where dictation methods are used; puts own incorrect interpretation on many questions and topics as a substitute for complete hearing and understanding.
4. Social symptoms: Listless, uninterested in any group, sensitive, aloof, suspicious, hard to accept as a cordial acquaintance.

In addition to the checking of these symptoms, screening results from the group testing with the 4-A Audiometer or the group pure-tone audiometer should also be utilized. The cases of suspected hearing defect should be examined carefully with the individual audiometer. In this examination each ear is tested for pitch from a high to a low range and for the keenness or acuity of hearing at the different levels of these ranges. It is also important that measures be made of the fusion of the hearing from the two ears when tested together.

Among the diseases or disorders of the ear, stoppages of the Eustachian tube, such as deformities of the outer ear and unusual accumulation of wax in the ear, are often found to be causes of impaired hearing. Diseases and conditions which affect the middle ear are also quite common. There are also diseases and infections which impair the mechanisms of the bones of middle ear as well as the tympanum itself. In like manner, diseases such as meningitis and fevers may destroy labyrinth and canals of the inner ear. These conditions are subject to exact medical diagnosis by specialists known as otologists. It is important that teachers be aware of

the evidences of these various conditions and that they know what types of diagnostic facilities are available in their communities.

*The Speech Defectives.* Speech defect is often complicated by social and personality maladjustments since it is difficult for individuals thus afflicted to maintain normal relationships with their associates. (Diagnosis in the field of speech disorders includes medical diagnosis for physiological abnormalities. A second area, primarily psychological, involves social analysis and the study of both family backgrounds and classroom conditions. A third type of investigation includes a carefully planned testing program for the discovery of specific errors in speech. In this third area, various school systems such as the Detroit Public Schools have developed whole series of pictorial or vocabulary tests designed to sample the initial, medial, and final sounds commonly used in speech, including letters and various combinations of letters as syllables.

Wendell Johnson gives the following classification of speech and voice defects:<sup>27</sup>

1. Articulation (sound omissions, as in *pay* for *play*; sound substitutions, as in *wun* for *run*; sound distortions, as a "whistling" *s*, or slighted, indistinct sounds)
  - a. Chiefly due to faulty training, or lack of proper stimulation (no significant organic cause)
  - b. Chiefly due to organic conditions
    - (1) Cleft palate
    - (2) Faulty mouth structure, such as high and narrow hard palate, dental palate, dental irregularities, large tongue, etc.
    - (3) Cerebral palsy (spasticity, athetosis, ataxia, due to damaged nerve cells)
    - (4) Aphasias
    - (5) Paralyzes
    - (6) Hearing loss
  - c. Chiefly due to "psychological" conditions
    - (1) Mental deficiency
    - (2) Common maladjustments, such as infantilism, shyness, withdrawing personality, etc.
    - (3) Psychoneurosis and psychoses
2. Fluency—anxiety problems
  - a. Stuttering
  - b. General nonfluency—repetitive, jerky, slow, irregular, labored speech
    - (1) Chiefly due to faulty training
    - (2) Associated with psychoneurosis, psychosis, mental deficiency
    - (3) Associated with organic pathology, such as cerebral palsy, aphasia, paralysis, etc.

<sup>27</sup> Wendell Johnson, *People in Quandaries*, pp. 474–75. New York: Harper & Bros., 1946.

## 3. Voice

- a. Pitch too high, too low, monotonous, patterned
- b. Loudness too high, too low, monotonous, patterned
- c. Rate, or timing, too fast, too slow, monotonous, jerky, patterned
- d. Quality defects: hoarseness, harshness, nasality, etc.

(1) All of these may or may not be associated with organic pathology, hearing loss, maladjustment, or faulty training.

## 4. Word usage

- a. Mispronunciations
- b. Faulty grammar
- c. Inappropriate or ineffective word choice

## 5. Lack of knowledge and skill in special means of transmission

- a. Radio, television, telephone, movies, speech recorders, etc.

*The Crippled or Orthopedically Handicapped.* Teachers and parents are able to observe some of the more obvious defects. The lesser defects have usually been known to parents before school entrance and should be reported by them to the schools. There is a generally accepted but erroneous idea among teachers and parents that unless an orthopedic defect is so serious as to require crutches or wheel chairs the schools should do nothing about it. Actually such extreme cases are few but there is an urgent need to be aware of many lesser defects which merit diagnosis and possible physiotherapy such as is provided in modern orthopedic schools.

Diagnosis and remedial prescription for the orthopedically handicapped are matters for the medical profession, preferably orthopedic specialists including surgeons. In many communities such a physician is employed by the school system at least part time as consultant or is engaged on a fee basis.

A type of case usually grouped with the orthopedically handicapped is that of the cerebral palsied. Because of the paralysis or debilitation of the nervous system in cerebral palsy, there is loss of muscular control and, hence, locomotion is so affected that these pupils are usually transported and housed with the orthopedically handicapped. Diagnosis in the areas of educational achievement and mental ability require unusual patience and tact because of the nature of the handicap.

*The Cardiac.* Pupils with heart impairment are sometimes placed in classes with pupils of lowered vitality and sometimes with the orthopedically handicapped for the sake of convenience in transporting some of the more serious cases to school. Although diagnosis is the task of the medical profession, symptoms may be observed by teachers as follows: breathlessness from exercise; flushed or slightly bluish color to the cheeks, lips, or fingertips; easy fatigue; a frequent dry cough; a chest pain after active physical exertion. Some of these symptoms may be indicative of other conditions.

The American Heart Association adopted the following plan for the classification of cardiographic and circulatory disturbances:

*Organic heart disease:*

- Class I: Patients with *organic disease*, but *able to carry on ordinary physical activity*.
- Class II: Patients with *organic disease*, but *unable to carry on ordinary physical activity* (cardiac insufficiency).
  - A. Activity slightly limited.
  - B. Activity greatly limited.
- Class III: Patients with *organic disease*, but *unable to carry on any physical activity*, i.e., who must remain in bed or in a chair (cardiac insufficiency).

*Possible and potential heart disease:*

- Class E: Patients with *possible heart disease*, not believed to be due to organic heart disease.
- Class F: Patients with potential heart disease. Patients without circulatory disease whom it is advisable to follow because of the presence of history of an etiological factor which might cause disease.

Pupils in Class I as well as those in Classes E and F of the above classifications may usually attend regular schools. Pupils in Class II-A and some of Class II-B are selected for special classes. The more severely restricted cases of Class II-B and the less severe types in Class III may have home teaching. Other types of bed cases in Class III should probably receive no instruction because of the severity of their illness.

*Lowered Vitality.* In any school there are usually a few cases of lowered vitality. Evidences of this condition may be indirectly reflected in marked disorders of growth, the loss of appetite, disinclination to play, unusual drowsiness, and similar symptoms. Children who have been absent from school because of extended illness should be watched to see if a normal physical recovery occurs.

In cases of malnutrition, puffiness under the eyes and an abnormally distended abdomen are ominous symptoms. A basal metabolism test conducted by medical technicians or nurses and interpreted by physicians is a good index of malnutrition. A second type of lowered vitality is found in cases of active tuberculosis. Contrary to popular opinion, tuberculosis is a germ disease and, hence, in its incipient stages, is not necessarily associated with loss of weight or lowered physique, such as may be observed in later stages of tuberculosis. The Pirquet, or cutaneous, test and the Mantoux, or intracutaneous, test give some definite indications, but the most reliable indicators are X-ray pictures of the chest.

*Some Minor Defects and Deviations.* Most of the cases included in this group do not have special classes or schools provided for them, but,

nevertheless, their defects or deviations are serious enough to warrant diagnosis by the staff and whatever treatment is indicated.

The epileptics can be informally diagnosed at home or in school either from their actual grand mal seizures or by more careful observation of very short losses of attention in petit mal seizures. Since some types of epilepsy are hereditary, additional data can be obtained from the case history of the family. The examining physician usually supplements these informal sources with electroencephalographic readings of the characteristic patterns associated with the various forms of epilepsy. Recent advances in medical knowledge give promise that epilepsy may be reduced so that most children can remain in their regular classes.

A second very common physical defect is dental caries. It was noted earlier in the chapter that the health examination programs commonly include inspection of the teeth. In addition to the inconvenience from loss of teeth and the physical pain of toothache, infections from decayed teeth are likely to have the serious effect of spreading infection into the blood stream and eventually affecting the heart.

Another group includes the comparatively rare cases of albinism, in which lack of pigmentation in the skin produces a pinkish tint that marks the individual as different from the norm. The lack of pigmentation in the eyes makes them unusually sensitive to strong light and many of these children are enrolled in sight-saving classes because of this visual handicap.

The type of individual deviation known as lateral dominance is beginning to receive much more attention than in former years. This investigation involves not only handedness but also general dominance of one side of the body, of the feet, and of the eyes. It is, however, chiefly concerned with handedness or dextrality, because physical manipulation is conspicuously involved in daily activities both in school and outside of school. It is known that children with ambidextrous tendencies and those whose handedness has been forcibly changed are more prone to emotional tensions, to the error of reversing symbols in reading, and, in some instances, to speech disorders. Useful tests of dextrality have been employed by Ojemann<sup>28</sup> and by some other investigators. Much of the trouble experienced by children with lateral-dominance tendencies could be averted if the true status of these cases were determined at the earliest possible age and appropriate educational adjustments made at once.

The rate of physical growth and the size of the individual at any particular age may have important social and psychological implications. Height and weight measurements should be recorded for all children at

<sup>28</sup> R. H. Ojemann, "Studies in Handedness: II, Testing Bimanual Handedness," *Journal of Educational Psychology*, XXI (1930), 695-702.

intervals of one year in order that the course of these developmental characteristics may be studied to the best advantage. A more complete discussion of the significance of deviations from normal growth patterns is presented in chapter iv.

There are many kinds of physical and sensory defects, and all of them are important from the point of view of educational diagnosis and correction. Many of them operate in mild form but in combinations, in which case their effects may be as serious as though one major defect existed. In an ideal situation a complete record of all these potential defects should be on file in the records office in each school. Specialized classroom facilities and other special services should be so utilized that all these children may be successful in their school and social adjustment.

### Neurological and Behavior Disturbances

It is unfortunate that many children afflicted with certain types of neurological disturbances are incorrectly classified as problems of extreme behavior deviations. Many children with chorea, nervous tics, sleeping sickness, postencephalitic conditions, various forms of epilepsy, and the early stages of mental illness are viewed or dealt with only from the standpoint of their disturbing behavior at home and at school.

There are various informal observations which can be made if one looks behind the external manifestations of behavior malpractices on the part of children. Such observations may disclose a general lack of nervous stamina, twitching of the eyes, nervous tics, tremor of the hands when fingers are tensed, or flighty attention. A sound and thorough health and physical examination is the first requisite of a remedial program for all such cases. Proper diagnosis and treatment may materially reduce the number of pupils who otherwise would certainly come to be regarded as behavior problems. The diagnosis of such symptoms should be the joint project of the social worker, the psychologist, the neurologist, and the psychiatrist.

Most of these cases should have a thorough examination by a competent neurologist. In aggravated cases the examination should include an X-ray of the skull and the use of the electroencephalogram technique. The Wassermann and other blood tests are also a part of this battery of diagnostic procedures. Close co-operation between the school and the medical profession is obviously necessary in handling such cases. In the field of personality disturbances due to home background and other social factors, many methods of diagnosis are required. It should be realized that the behavior symptoms which are so eloquently described by teachers and school administrators are only considered as symptoms and

are not actual causes. Moreover, they frequently have very little to do with the actual diagnosis.

*Personality Tests.* In the past few years many personality tests and questionnaires have been developed. Some of them are self-administering while others are in the form of rating scales to be used by examiners or by trained teachers. A great amount of research was done in this field in connection with the training programs of World War II. Many of the tests are designed for adolescents and are not suitable for children of elementary-school age. The California Tests of Personality<sup>29</sup> may be used with the younger children. The Detroit "Telling What I Do" Test may be given as early as the third or fourth grade, and the Detroit "Things I Do" Test<sup>30</sup> may be introduced at about age twelve. The latter includes remedial materials or lesson sheets designed for use by the students. The results of these questionnaires should be used as a basis for interview and follow-up rather than as a means of setting critical scores below which cases are given up as hopeless.

*Case Histories.* A second general method of behavior diagnosis is the case history, which should be developed by especially trained persons familiar with the field of psychology and social work. In many states trained visiting teachers or school social workers who can use case histories as a method of diagnosis are a recent addition to the staff. The case history includes the health and physical characteristics, personal habits and recreational interests, personality and social factors, the physical aspects and cultural atmosphere of the home, and adjustment to school situations. It is obvious that a great amount of information must be secured in order to provide an over-all view of the problems of these exceptional children.

*Other Diagnostic Methods.* In the past few years there has been a rapid increase in the use of the Rorschach method of diagnosis. This method involves analyzing what the child sees in a series of ink blots. In a recent number of the *Review of Educational Research*<sup>31</sup> there is a review of the literature in this field, supplemented by a bibliography of 174 titles. The advocates of this rather highly technical method of diagnosis claim that many kinds of emotional and personality problems are brought to light due to the stimulation of the imagination of children by the requirement of an interpretation of the ink blots. Training schools and specialized courses in this method have been set up in various parts of the country. The highly professional basis on which this experimentation has been

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<sup>29</sup> Available through the California Test Bureau, Los Angeles, California.

<sup>30</sup> Both available through the Public School Publishing Co., Bloomington, Illinois.

<sup>31</sup> *Review of Educational Research*, XVII (February, 1947), 78-100.



projected represents an encouraging movement in the field of scientific measurement.

Along similar lines there are other techniques. For example, in play situations the child discloses some of his innermost problems; drawing and painting techniques are known to be effective in bringing out the deeper feelings and attitudes of children.

It is an interesting paradox that diagnosis and treatment are closely interwoven in the field of behavior and mental hygiene. This is due to the fact that disclosing the causes of difficulty frequently gives insight into the problem. In this field of remedial work there is considerable division of opinion as to the relative merits of directive and nondirective therapy, both of which are concerned with diagnosis. In the nondirective therapy the interviewer mainly seeks by skilful mirroring of the client's feelings to help him diagnose his own difficulties and suggest methods of treatment. In the direct method of therapy, or counseling, it is assumed that the patient needs guidance and interpretation on the part of the interviewer.

In the field of psychology and social work the whole program seems to be in the midst of confusion with different schools of thought making very definite claims for the superiority of their particular methods. Eventually, there will probably emerge a few methods which have demonstrated their superiority over others but with the best points of all methods being integrated into one generally effective program. As a result of research in the field of mental hygiene there will not only be diagnosis and remedial work on the more extreme problem cases but the techniques of mental hygiene will be found valuable in the training of teachers and school administrators in the matter of children's personal and social relationships.

#### SUMMARY AND CONCLUSION

From the many items which have been discussed in this chapter it is evident that diagnosis is a very important initial step in discovering the magnitude of the problems relating to the education of exceptional children. After a comprehensive system of special education has been established, the diagnostic program should be continued for the discovery of additional cases among children in the regular classrooms. Further testing is also necessary for checking the progress of children who have been included for a period of time in the program of special education.

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# CHAPTER IV

## GROWTH PATTERNS OF EXCEPTIONAL CHILDREN

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### INTRODUCTION

The need for considering total development and personality and for adopting a philosophy of growth becomes especially urgent in working with the child who differs widely from his associates either by reason of injury or deprivation or because of very rapid or slow growth.

It appears to the writers to be a wiser use of limited space to move directly to a description of some exceptional children and a discussion of major concepts rather than to attempt to achieve systematic completeness by a review of the literature and a presentation of alternative methods for the description of growth. Comprehensive seriatim records have been collected by the laboratory school of the University of Michigan since 1930. In the course of the years many children have been encountered who present unusual patterns of growth. They have contributed to an understanding of generalizations which were previously reported about the growth of children as wholes and which are developed further in the discussion of the cases that follow.

Illustrations will be included here of the growth of gifted children, mentally retarded children, children of lowered vitality, children with apparent glandular disturbances, children with delayed speech, and those who are disturbed in emotions and behavior. Some implications and applications for the social psychology of the classroom and for educational treatment will be included.

### UNITS FOR THE DESCRIPTION OF GROWTH

The age principle has been used in the following pages to transform data collected in many types of units in a manner which will permit

simultaneous description of the patterning and direction of growth. A manual<sup>1</sup> based upon published sources gives the investigator an age equivalent for any given height in inches, weight in pounds, number of teeth erupted, and strength of grip. X-rays of the hand and wrist are converted directly into carpal ages by matching with the samples of the Flory standards.<sup>2</sup> The manuals for the educational and mental tests give the age equivalents for scores for performance. The age units are used as a convenience in description, not as norms or goals. The results of periodic measures after conversion are plotted so as to give a general picture of the growth for the child as a whole. The quantitative materials are supplemented by medical histories and examinations and by cumulative records of behavior and of nurtural variations.<sup>3</sup> For some analytic purposes an average of all growth data is calculated at a point in time. The resultant value has been named organismic age.<sup>4</sup> The distribution of the separate attributes of growth about the central age is sometimes studied and measures of dispersion such as average deviation and standard deviation can be used to test the hypothesis of the unity of growth. The general method of description will become clearer in the consideration of selected cases.

#### THE INTELLECTUALLY GIFTED CHILD

The method of construction of the graphs is illustrated by the growth curves for an intellectually gifted boy (I.Q. about 140) as given in Figure 1. The chronological ages are plotted along the base line and the growth ages along the vertical axis. The straight diagonal line across the page represents one year of average growth for one year of life. In this particular case it will be noted that mental age and reading age are at a high level, followed in turn at the close of the record by grip age (G.A.), weight age (W.A.), height age (H.A.), carpal age (Ca.A.), and dental age (D.A.).

Gifted children, in general, tend to be characterized throughout their life history by a highly individuated mentality and a corresponding luxuriation of language processes, reading, and academic achievement. The physical attributes tend, on the whole, to lie above the averages typical

<sup>1</sup> Willard C. Olson and Byron O. Hughes, *Tables for the Translation of Physical Measurements into Age Units*. Ann Arbor, Michigan: University Elementary School, 1947 (temporary revised edition).

<sup>2</sup> Charles D. Flory, "Osseous Development in the Hand as Index of Skeletal Development," *Monographs of the Society for Research in Child Development*, Vol. I, No. 3, 1936.

<sup>3</sup> Willard C. Olson, *The Behavior Journal: Manual of Directions for Use in School*. Ann Arbor, Michigan: University Elementary School, 1948 (third edition).

<sup>4</sup> Willard C. Olson and Byron O. Hughes, "The Concept of Organismic Age," *Journal of Educational Research*, XXXV (March, 1942), 525-27.

for children in general but tend to be less highly developed than the intellect which so often constitutes the chief basis for the identification of the gifted. If we were to select children who are gifted in height, other values such as mental age would regress toward the mean.

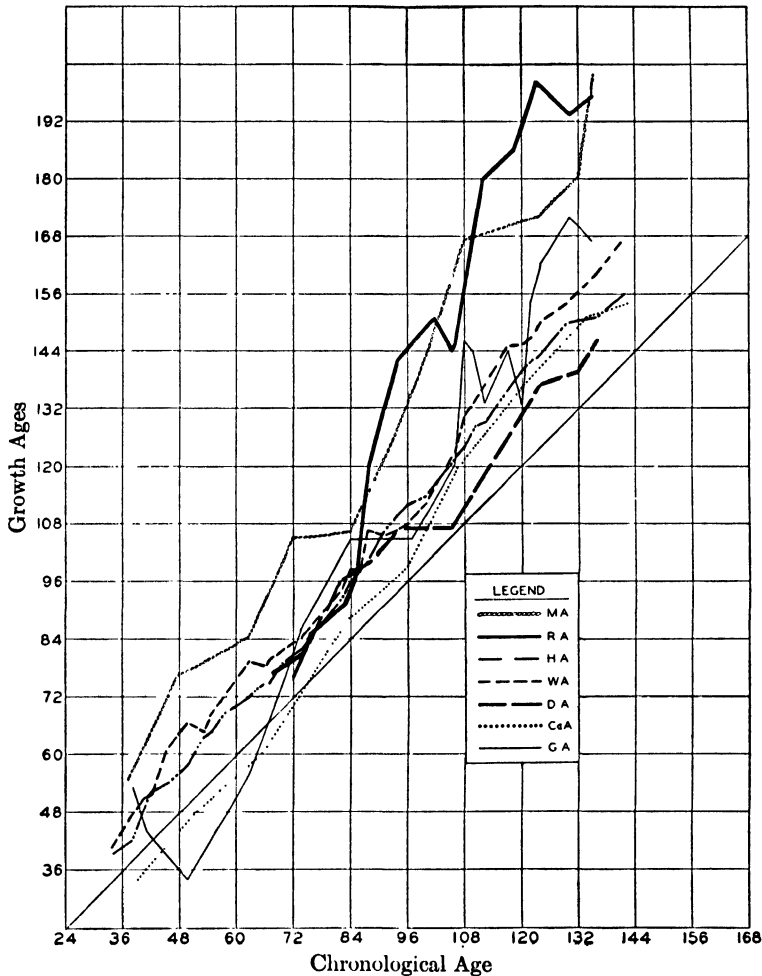


FIG. 1.—High status and rapid growth in a gifted boy

A gifted child, such as in this illustration, commonly confirms two generalizations concerning the growth of children, namely, (a) growth tends to be unified, and (b) achievement is a function of total growth. The statistical tests of these hypotheses need not be repeated here but we expect about 85 per cent of children to be more unified than the whole group of which they are a part. This still permits some children to appear

to be quite divergent in their growth, particularly if only superficial evidences are obtained at one point in time. Children of high intelligence who do not have a similar maturity in many other variables tend, as is sometimes said, "not to live up to capacity" in their school achievement.

The individual cumulative folder for the child in Figure 1 is about an inch and a half in thickness, and there are similar folders for other members of the family. To give an adequate description of the boy as a personality would require all the space at the disposal of the writers. It may be well, however, to indicate the direction in which a more complete description would proceed.

The child was born at full term after a normal and comfortable pregnancy. Labor was short and easy, and the birth weight was seven pounds four ounces. The child went through the sitting, standing, walking sequence at a slightly accelerated rate, had the first tooth at six months, and was somewhat accelerated in talking.

The health history throughout has been good. The menarcheal age of the mother was eleven years, very accelerated, and we are prepared to find a tendency toward early maturity on the part of offspring. This is subsequently confirmed, and the boy in the illustration had the first appearance of pubic hair at about age eleven.

Several types of evidence not plotted on the graph (Figure 1) indicate the general rapidity of development of the boy. At nine years and three months there was a retardation of ten months in developmental age based upon interest as measured by the Furfey Scale.<sup>5</sup> This quickly changed, and, by ten years and four months, he attained a developmental age of twelve years and eight months. At a chronological age of seven years and three months his social competence was appraised by use of the Vineland Scale,<sup>6</sup> and he was found to have a social age of ten years and five months. Nine consecutive annual ratings on the Haggerty-Olson-Wickman Behavior Rating Schedules<sup>7</sup> placed him always in the best-adjusted half of his age group according to the published norms. On a scoring for introversion and extroversion, he was in the ambivert area in three out of the four measures, with a slight tendency toward extroversion on one appraisal.

The boy of Figure 1 had the good fortune of living with socially sensitive and highly educated parents. It is not surprising that the subsequent record in high school, based both on superior growth and superior nurture, is maintained at a high level.

<sup>5</sup> Paul H. Furfey, "A Revised Scale for Measuring Developmental Age in Boys," *Child Development*, II (June, 1931), 102-14.

<sup>6</sup> Edgar A. Doll, *The Vineland Social Maturity Scale*. Minneapolis: Educational Test Bureau, 1946.

<sup>7</sup> Melvin E. Haggerty, Willard C. Olson, and E. Koster Wickman, *Behavior Rating Schedules*. Yonkers-on-Hudson, New York: World Book Co., 1930.

## SIBLING RESEMBLANCES IN GIFTED CHILDREN

The longitudinal, seriatim study of children opens new possibilities of research on designs for growing. Thus the boy of Figure 1 has two brothers, and the growth data for them can be compared, as in Figure 2. The child previously discussed is described in the various panels with a broken line. The striking similarity to an elder brother (solid line) and a younger brother (dotted line) is apparent at a glance. Only in carpal

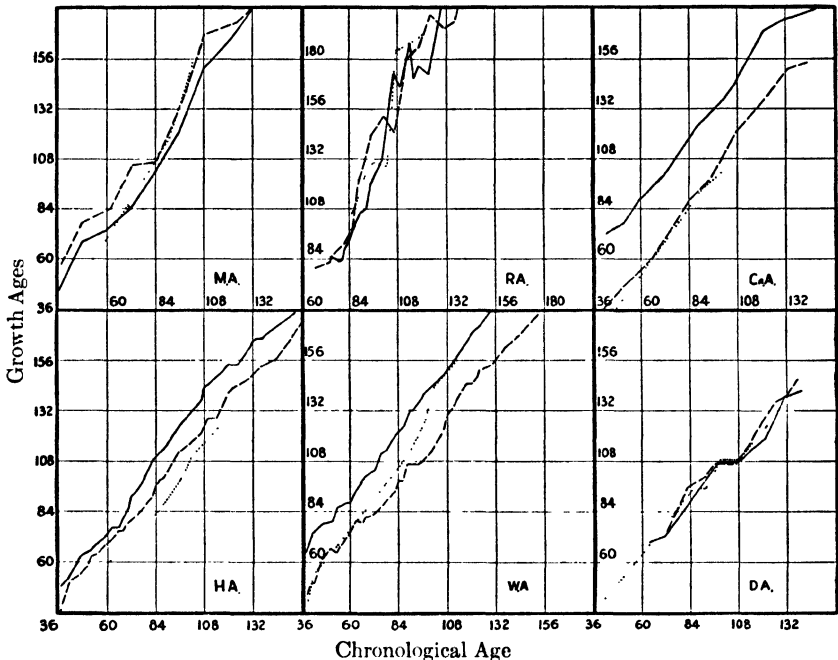


FIG. 2. Similarity in level and pattern of growth of three gifted children from the same family.

age (Ca.A.) is there a substantial separation of the elder child from the younger ones. If the reader will inspect in detail, he will be impressed by the coincidence of flexion points as each child in turn becomes a given age. The tendency for the specific strands of a pattern to be similarly located in different members of a family comes out regularly in a larger body of sibling comparisons. Children such as these regularly seek difficult and varied educational experiences as contrasted to those who are growing slowly or at an average rate.<sup>8, 9</sup>

<sup>8</sup> Willard C. Olson, "Experiences for Growing," *Journal of the National Education Association*, XXXVI (October, 1947), 502-3.

<sup>9</sup> Willard C. Olson and Sarita I. Davis, "The Adaptation of Instruction in Reading to the Growth of Children," *Educational Method*, XX (November, 1940), 71-79.

## THE GROWTH OF MENTALLY RETARDED CHILDREN

It appears probable that the pattern of growth in mentally retarded children has important relationships to their general behavior and ability to adjust in social groups. Such data as we have examined thus far sug-

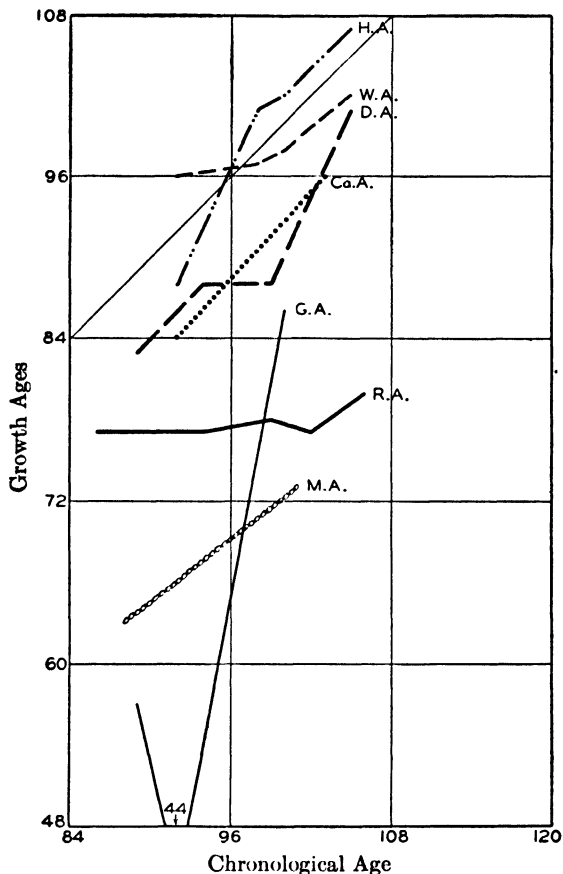


FIG. 3.—Slow growth in a mentally retarded boy with cerebral damage.

gest that feeble-minded children will, in general, have the mental age as one of the least individuated aspects of the total growth while other measures will tend to regress toward the mean line and may reach or exceed it in individual cases. Total maturity as described by the measurement of multiple factors adds significantly to an understanding of the potentiality of the retarded.

The child in Figure 3 entered school for the first time shortly after the age of seven. It will be noted that height and weight are near the line of average growth. Mentality and strength are the least highly individuated.



Carpal development and dentition are intermediate. At the age of eight years and ten months he was just getting a start in reading, with a reading age of six years and eight months.

There was nothing particularly remarkable in the prenatal history of the child. He was born at term with a weight between six and seven pounds according to the mother's report. He was weaned from the bottle with much difficulty at eighteen months. He was delayed until sixteen months in walking and did not talk until four and one-half years of age. He still had a severe speech defect at the opening of the record shown. His first tooth appeared at twenty-one months. Bladder control was not established until age three.

One of the significant features of this child's early history is otitis media accompanied by severe illness at eight months. There seems to be a high probability of brain damage in connection with his illness, confirmed by later neurological examination and by some spasticity in his movements. At the time of the beginning of the record, he was presenting many problems such as overactivity, easy fatigability, almost continual and somewhat unintelligible talking in a shrill voice, and automatic regurgitation of meat when eaten. The boy had a large head, poor musculature, and a childish gait.

The case here described is sometimes classified as an exogenous type of mentally retarded child. The absence of a family history of mental deficiency and the evidence for cerebral damage is confirmatory. There is already some evidence in the literature<sup>10</sup> that such children will be less unified in total growth than the endogenous.

It is of interest to contrast this case with that of a girl (Figure 4) of borderline mentality in which height, weight, carpal ossification, and strength have been effective factors in raising her total organismic status in a manner which leaves her a well-adjusted and socially useful young lady. There is less than average development in dentition, mental age, and reading age. One would have quite an inadequate picture of her as a functioning individual by a statement of her intelligence quotient, which has varied between 69 and 77. Her organismic quotient (organismic age divided by chronological age) has remained at 96 during the period of most intensive study. Developmental age as measured by the Sullivan Scale has hovered about the vicinity of her chronological age at three measurement periods. Her social age on the Vineland Scale was thirteen years and ten months at a chronological age of eleven years and seven months. Measures of problem tendencies reveal an average adjustment

<sup>10</sup> Alfred Strauss and Laura E. Lehtinen, *Psychopathology and Education of the Brain-injured Child*, p. 122. New York: Grune & Stratton, 1948.

in the social situation and measures of extroversion-introversion consistently show scores in the ambivert area.

This girl's superior physical skill and ability in art and music were recognized in the elementary-school period and continued subsequently to be an asset. Her achievement in more intellectual pursuits is at the low level to be expected from the pattern of growth. Her educational treat-

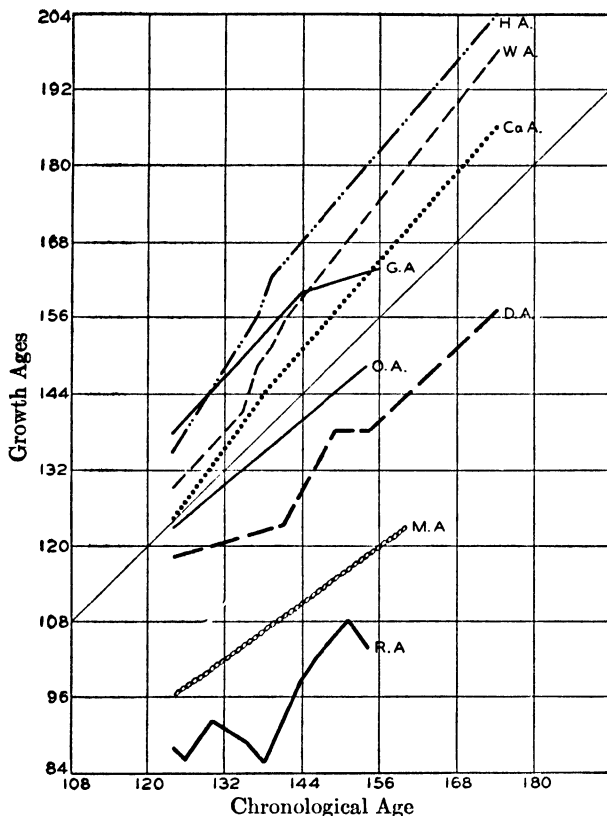


FIG. 4.—Growth of a mentally retarded girl. (From Olson and Hughes, *Childhood Education*, October, 1944.)

ment was based on the principle "capitalize on strength" rather than an emphasis on areas of weakness. No one observing this child as a whole would make the diagnosis of borderline mental deficiency. Although her system of growth curves is less unified than we have come to expect in such children, both her individual record and sibling history place her in the endogenous group.

#### SLOW GROWTH WITH APPARENT GLANDULAR DISTURBANCES

Children who are growing slowly, particularly in intellect and achievement, often are segregated in special classes or handled by special adjust-

ments within the room. Some of these slow-growing children have a deficiency in glandular functioning as a prominent aspect of their total diagnosis. In such cases treatment aimed at the glandular condition is often instituted. It now seems probable that many persons have been overly optimistic about the amount of stimulation that can be expected in such children by the administration of special gland substances. It is possible that glands functioning at a low level often are simply another expression of the total picture of immaturity and that treatment is merely corrective of symptomatic conditions rather than fundamentally curative. A basic difficulty in evaluating stimulation through gland substances is that one seldom has any type of control data on what could have been expected without the treatment. Children grow and mature as they become older and it is hard to separate this trend from the special effects that may be attributed to medication. A further difficulty is that a small initial responsiveness decreases as antihormones build up within the system.

The growth curves for the girl in Figure 5 are instructive. She was the daughter of a businessman and a nurse with an income level that made it possible to do whatever was necessary for her well-being.

It will be noted that the girl's growth curves are substantially below the line of average growth. Her organismic age has been calculated at annual points and there is an average deficiency of about twenty-seven months during the period of the graph. In her early years, there was some fear that she might be heading for dwarfism. Treatment with antuitrin to compensate for pituitary deficiency appeared to produce some responsiveness in the early years, but there was subsequently a suspicion that antibodies were built up which were actually detrimental to her growth. Note, for example, the period of plateau from eight to eleven years of age. A thyroid deficiency was also in the picture, and heavy doses of thyroxin were started at about 120 months of age. The curves tend to swing up shortly after 132 months of age and it will never be known whether this was because of or in spite of treatment, since no data on untreated siblings are available. From the point of view of familial resemblance, it should be noted that the child comes from a family which would be expected to produce offspring below the line of average growth in size.

In accordance with the trend expected with children of this type, this girl had her first tooth at twelve months, did not walk alone until two years, was delayed in bladder control and in the development of intelligible speech. Attempts at breast feeding were unsuccessful. Contrary to the general trend in slow-growing children, the mother's menstruation was early and the daughter's likewise. It should be recalled in all generalizations that trends are overruled in specific details, and one is more impressed by lawfulness when appraising all types of data simultaneously

than when trying to locate an unexceptional trend for a single factor.

The development of the child's interests was more in accord with her growth age than with her chronological age. Thus, at a life age of twelve

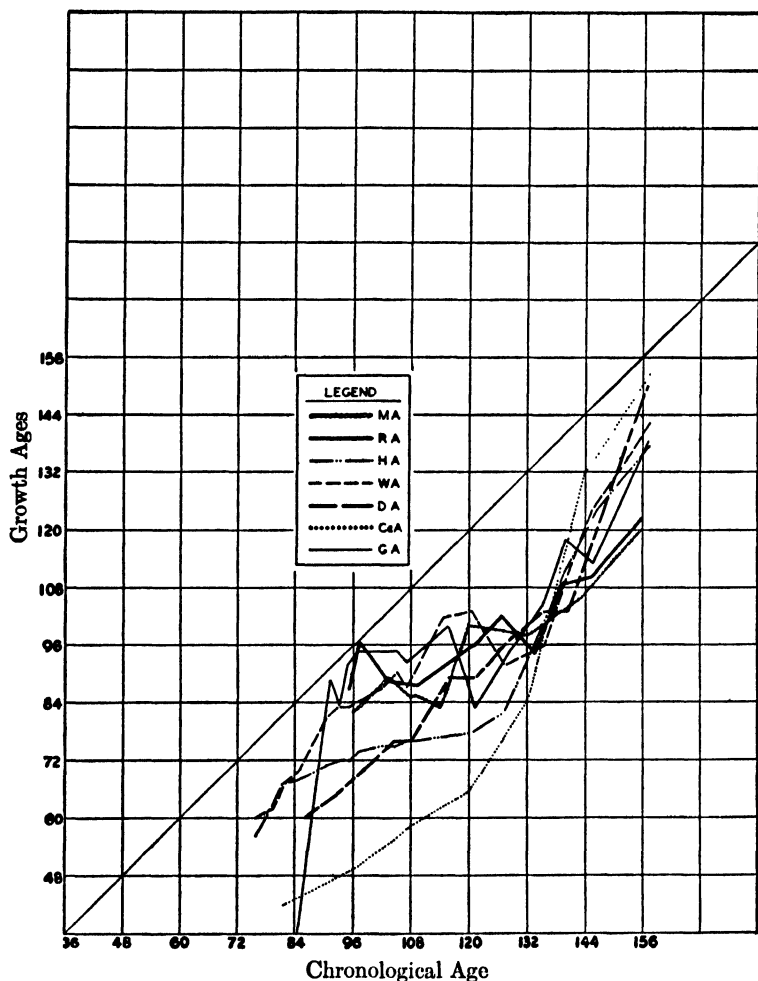


FIG. 5.—Slow growth of a girl with glandular involvement

years, her developmental age, based on interests as measured by the Sullivan Scale, was appraised at eight years and two months.

Irrespective of complex causative factors, such a child presents important problems of management to the school. Behavior tends to be immature for the chronological age of the child, although not for the growth age. Much effort is needed to control restlessness and inattention. If in a mixed group, it is essential for the teacher to insure that simple reading

materials and other learning experiences are in the environment. Perhaps the greatest needs for the slow-growing child are, first, a program of continuous interpretation to the parents by members of the staff and, second, a sensitive regard for readiness and careful attention to pacing practices on the part of the classroom teacher.

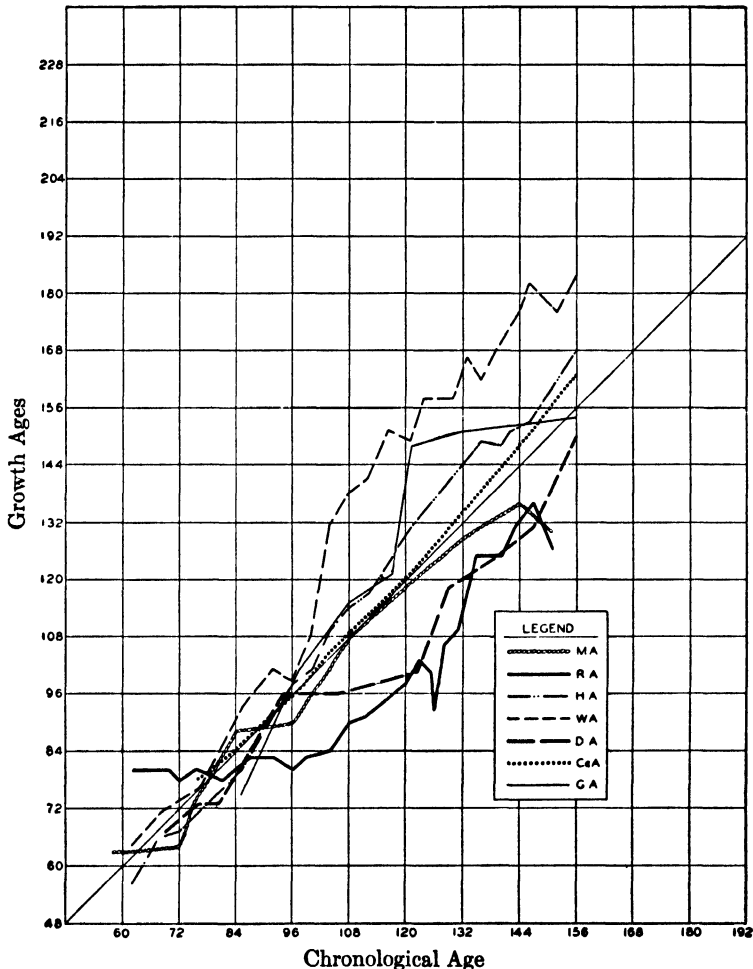


FIG. 6.—Growth of a boy who was delayed in the maturing of secondary sex characteristics.

#### DIVERSITY IN LEVEL AND RATE

The boy illustrated in Figure 6 had a fairly unified growth picture between the age of sixty months and ninety-six months. He then started to accumulate fat at a rapid rate and his weight-age curve became the highest of the measurements recorded. In the period from nine to

twelve years he is one of the relatively few cases that are exceptions to the generalization that children are regularly more unified than the whole group of which they are a part. In the period following that covered by the graph, his growth curves converged again.

Medical study revealed a complex which probably involved the pituitary, the thyroid, and the gonads. For example, the testicles were still incompletely descended at 132 months of age, although this change normally occurs at or shortly after birth. The boy had a late maturing mother (menarcheal age 16), so there is a familial aspect which may be fundamentally more important than the observation of delay in individual sex maturing.

One would miss the significance of total growth in this boy to assume that the retarded progress in reading was a matter of curriculum and instruction. Much individual attention was given in reading, both by the teacher and by a psychologist during the period of the boy's plateau in reading.

Growth such as that of the boy in Figure 6 is sometimes described as sex-inappropriate, i.e., it does not conform to the typical masculine pattern. Boys with this type of growth sometimes must be aided in personality adjustments since they become sensitive to the differences between themselves and their companions.

#### THE RETARDED IN SPEECH

Speech becomes of peculiar interest to the developmental psychologist as an individuation of part-behavior from the structures and functions of the total organism. A longitudinal record (Figure 7) from the laboratory school will serve to illustrate the problem of speech in relation to total developmental diagnosis.

The growth curves describe a boy of slightly above-average mentality with growth curves in dental age, grip age, height age, and weight age which are in the vicinity of average development. The curve for reading age, however, over a period of seventeen months of testing shows a surprising degree of unresponsiveness to instruction. If one had this much information about the child, one might entertain the hypothesis that reading instruction was seriously at fault. If now, however, we add to the total picture an "articulation age" based upon four successive examinations of the pronunciation of consonant sounds,<sup>11</sup> we secure added insight into the reason for lack of progress in both oral and silent reading. The articulation ages range between thirty-six and forty months during the period shown on the graph. The separation from the other variables is

<sup>11</sup> Irene Poole, "The Genetic Development of the Articulation of Consonant Sounds," *Elementary English Review*, XI (June, 1934), 159-61.

probably exaggerated because of the unusual maturity of the select population upon which the provisional articulation-age scale was based. The boy was a premature baby weighing about three pounds and was delayed in talking until practically three years of age.

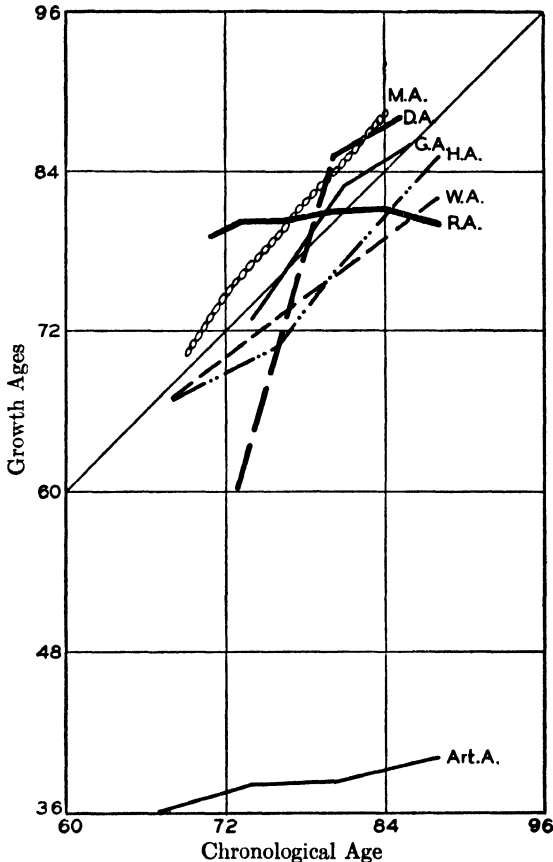


FIG. 7.—Growth of a boy with marked delay in the development of articulation of consonant sounds.

The unwholesome pressure placed on this child by his parents for high academic achievement and exemplary behavior appears to have been a further factor in deteriorating his social behavior, and he received ratings of problem tendencies placing him in the highest 10 per cent of the population in the undesirable direction.

The child passed from our supervision. However, a follow-up study four years later revealed a twenty-six month's retardation in mental age and a fifteen month's retardation in reading, with some continuation of disturbed behavior which had become more aggressive.

## CHILDREN OF LOWERED VITALITY

The writers have studied a substantial number of children presenting the condition commonly called "lowered vitality." Their records are particularly instructive in developing an understanding of the complex of nature and nurture involved in growth.

For purposes of exposition here, we will present some details concerning a family of four. Pregnancies A and D (Table 1) terminated with the death of the child. Children B and C survived and will be the subjects of discussion.

TABLE 1  
ORDER OF PREGNANCY, MATERNAL AGE, AND AGE AND  
WEIGHT AT BIRTH FOR CHILDREN OF FAMILY X

PREGNANCY	MATERNAL AGE	AGE AT BIRTH (months)	WEIGHT
A.....	23	6	Dead
B.....	25	8	5 lbs. 8 oz.
C.....	27	7	2 lbs. 4 oz.
D.....	28	7	Dead

The subsequent growth of Child B and Child C is described in Figure 8. The growth of B is portrayed by a solid line and that of C with a broken line in the various panels. Their close resemblance in mental age, carpal age, height age, weight age, and dental age will be noted. Child B's growth in reading showed a spurt earlier than that for his younger brother. The spurt for C in reading, as shown in the chart, is actually too straight and even because of the absence of some tests at intermediate points.

Statistical tests have been applied to the differences that exist between the two boys as compared to children drawn at random. Evaluating all the material from all the graphs simultaneously, the differences found are only 37.7 per cent of what would be expected among pairs selected at random. In chance matings of populations, sibling differences are expected to be 50 per cent of nonrelated pairs. If we allow a loading of 12.5 per cent for the tendency toward selective mating, we find the two boys show the amount of sibling resemblance that should be expected on the average in any similar comparison. In the case of weight, however, the difference is only 10 per cent of what would be expected by chance. The hypothesis is thus tenable that common nurlural factors have made for additional similarities beyond ordinary sibling resemblance in this more sensitive area.

The tendency for a delayed onset of the cycles of puberty is confirmed



by other material in the detailed record. Thus the mother's first menstruation occurred somewhat past sixteen years of age—a substantial delay. Such a delay in the mother is known to be reflected in sons and daughters.

It will be necessary to omit most of the numerous details concerning the environmental factors playing upon these boys. A few outstanding events may be noted. The mother spent two months in bed prior to the

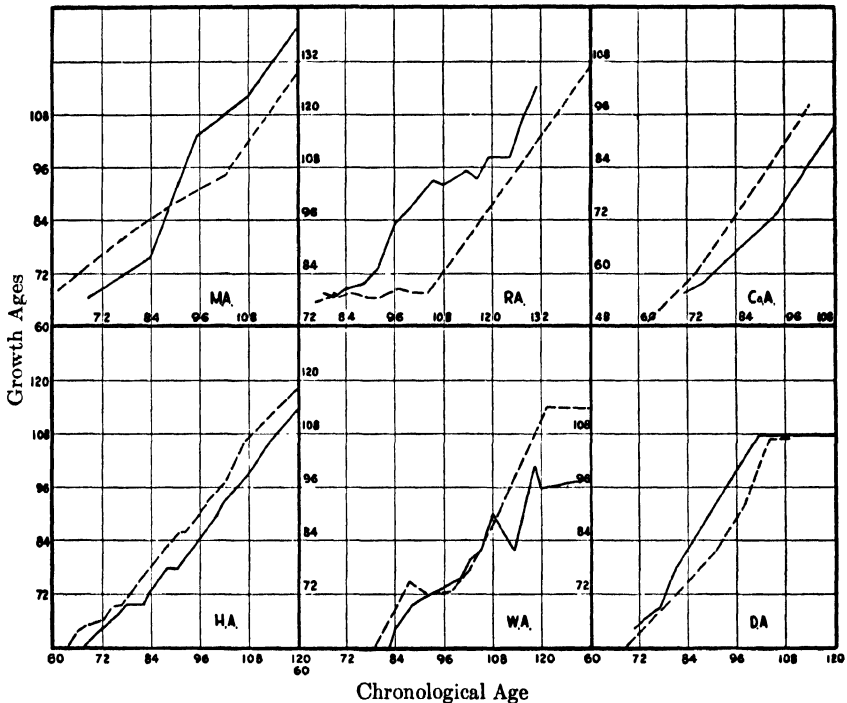


FIG. 8.—Comparison of the growth of brothers with lowered vitality

delivery of Child B. Morphine was given daily for two months. The delivery was difficult and the baby was cyanotic. Breast feeding was unsuccessful; the baby appeared lifeless and had to be fed with a medicine dropper. There was heavy demand for rest and sleep during the first eighteen months. The child showed much fatigue and great excitability, with prolonged crying and a poor appetite. Subsequently there was evidence of allergic rhinitis, hypothyroidism, asthmatic bronchitis, and finally a positive tuberculin reaction.

The mother had a similarly difficult time with the younger child. There was daily nausea, persistent vomiting, and repeated occurrences of false labor. These are not good conditions for the prenatal nurture of a

child. The child slept most of the time for two months after birth and was fed with a medicine dropper. Convulsions disappeared by age five and night terrors continued into the elementary period. As in the case of the brother, there was quick fatigue, high excitability, asthma, allergic rhinitis, hypothyroidism, and finally a positive tuberculin reaction.

It is probable that the boys of the preceding illustration could not have been kept alive except for advances in modern medicine. As in all children, they have designs for growing which required nurture for their fulfilment. Many wise things were done in the course of their development to keep them alive and to assist them in fulfilling their designs. At one time, for example, Child B was found to be walking two miles at noon for an inadequate lunch. This is the period when his weight was declining, as shown in Figure 8, shortly after nine years of age. Elimination of the walk and a hot lunch at school may have assisted in the response noted in the weight curve.

In the case of these boys, it is clear that they should be treated as if they were actually younger than their life ages. Although their mental ages through the years of the record were in the vicinity of average growth, it is clear that their total competence was not up to it. Their immaturity was reflected in their disinterest, inattention, and lack of progress in reading. Their achievement in this subject was about what should be expected of them, all factors considered.

Parent education becomes of unusual importance in connection with boys who grow like those in the illustration. With all the difficulties noted, the parents still put pressure on these boys for greater achievement in school. The resulting repercussions in behavior and personality, which appeared to be a complex of immaturity and reaction to frustration, were undesirable. It is probable that the teacher of children such as have been described should be unusually sensitive to factors stimulating particular types of behavior so as to avoid undesirable stress in an inadequate organism.

The writers would not wish to imply that all children of lowered vitality show the deficiencies in growth presented by the cases in the illustration. They have in the files cases where growth has been at a high level and where the evidences for lowered vitality are found more largely in the amount of energy available to the organism for productive work than in actual registration in the growth process.

In one sense then, the category "lowered vitality" is not too meaningful. The particular applications of principles of growth in an individual are unique and must be studied in a clinical context. Children of lowered vitality regularly confirm two generalizations applicable to all children, that total growth tends to be unified and that achievement is a function of total growth.

## AFFECTIVITY AND GROWTH

The hypothesis that there is a relationship between affective or emotional states and growth appears to be supported from both the point of view of internal need and of external requirements. It is expected that affective warnings will occur when all is not right in the homeostatic system. Where the requirements for self-regulation are not met, some affective awareness commonly occurs. On the other hand it has been demonstrated that environmental situations do alter circulation, metabolism, secretions, mineral retention, etc. Such relationships have been the concern of psychosomatic medicine.

Over the years, the laboratory school has accumulated records for some highly disturbed children. These are often the subject of study by the entire staff so as to secure the best professional help and to carry out whatever sensible recommendations might ensue. Seriatim records of growth were brought to conferences and it was noted that relationships exceeding chance appeared to exist between an exacerbation of emotional and behavioral symptoms and the pattern and rate of growth. Here, obviously, is an important problem of "process" on which only a beginning has been made.

Mechem<sup>12</sup> studied associations between affectivity and growth among children in a laboratory school. She found a substantial relationship between verbalized affective states and growth in a year interval between interviews. The change in a child's affectivity score was a more sensitive indicator than its absolute amount. The growth curves for the girl in Figure 9 illustrate, in the period between the heavy vertical lines, the sluggish growth that accompanied a large deterioration of 16 points in affectivity score. An accumulation of entries in the "behavior journal" for this case supports the interview material. The teacher, physician, and psychologist note dissatisfaction with school, trouble with associates, day-dreaming, depression, fatigue, fainting spells, and beginning of the menstrual cycle. Problem tendencies as measured by the Haggerty-Olson-Wickman Scale increased in amount between the interviews.

It is, of course, unsafe to give a general formula for the treatment of the emotionally disturbed child in school. The factors are often so specific as to be revealed only by individual case study. There is an interesting "hen and egg" problem in the question of whether affective disturbances precede or follow physiological needs. It seems probable that these matters are circular and multiple in causation and that a professional person might institute treatment at any point which affects the whole. There is, thus, a rational basis for programs in which food and rest and reduction of sensory bombardment are to the fore, for therapeutic measures in

<sup>12</sup> Elizabeth Mechem, "Affectivity and Growth in Children," *Child Development*, XIV (June, 1943), 91-115.

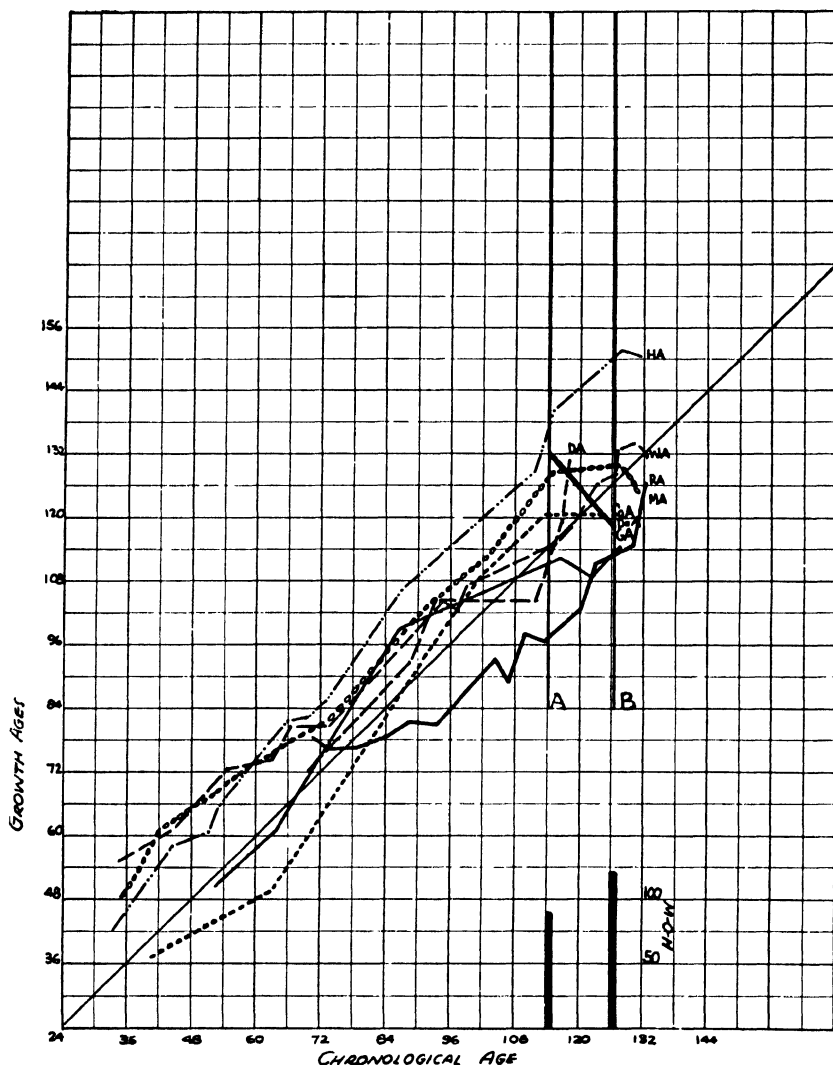


FIG. 9.—Sluggish growth in the interval between interviews for a girl whose affectivity scores decreased. (Reproduced by permission from Mecham.)

which the externalization of tension through much involvement in expressive behavior is stressed, and for psychotherapeutic procedures in which individual analysis, interviews, and the progressive achievement of insight are prominent.

#### SOCIAL RELATIONS OF THE EXCEPTIONAL CHILD

While the discussion in the foregoing illustrations has centered on the development of structures and functions, it has been apparent that a

part of the problem of dealing with the exceptional child is concerned with his relationship to others in his surroundings. We will illustrate one way for the systematic study of this problem by using modifications of Moreno's sociometric techniques.

The arrangement of the children in Figure 10 is based upon a question-

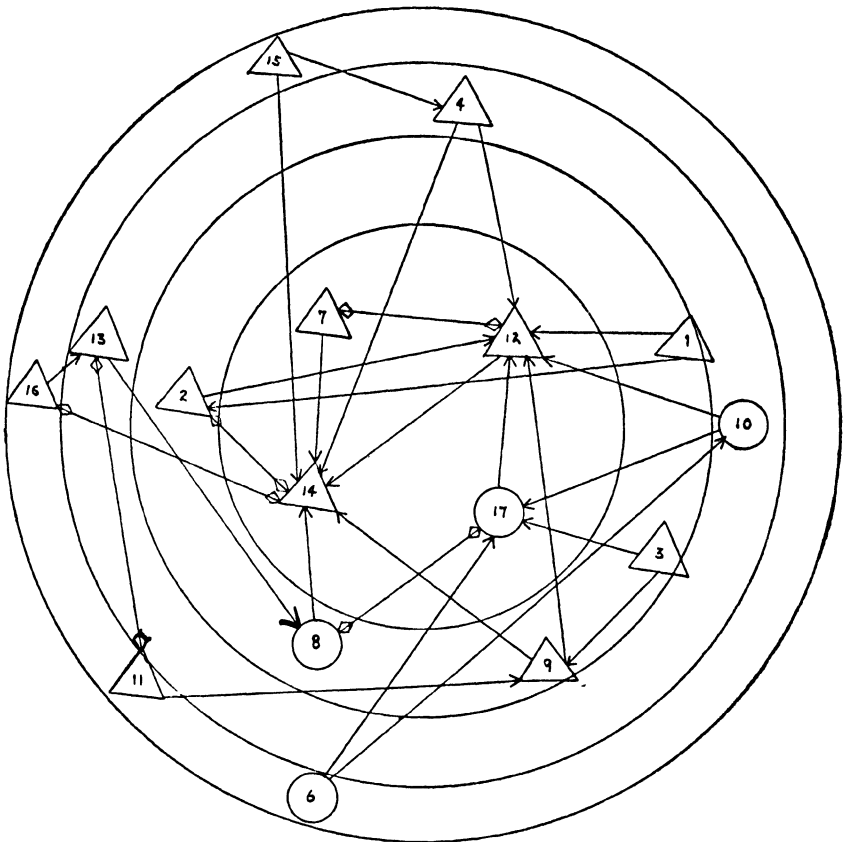


FIG. 10. - Sociogram for Grade III. The choices for companions for work in school are shown on a chart where the location of the children is determined by total social-status scores. Triangles represent boys, and circles represent girls. Children 7, 12, 14, and 17 receive many choices, while children 15, 16, 11, and 6 receive few. The arrows indicate the number and direction of choices. Diamond-headed arrows represent mutual choices. (From Olson, *Childhood Education*, March, 1946.)

naire in which each child chose two others for each of three situations: going to the movies, for a luncheon companion, and for school work. To avoid confusion, the lines have been drawn to show only the number and directions of choices for companions for work in school. Such a diagram becomes of clinical interest to the student of the exceptional child when it is observed that children on the periphery have characteristics as follows:

*Child Number*

6. .Highest among girls in extroversion, second in problem tendencies, pronounced affective disturbances.
10. .Most able in intellect and achievement and most introverted among the girls.
11. .Most immature in organismic status in the group.
15. .Highest extroversion and problem tendencies among boys. Also one of most immature in growth. Low in desirable affectivity.
16. .Most immature intellectually in the group.

The children in the center tend toward the reversal of these traits in varying combinations. A child such as number 3 is of special interest to the teacher of the hard-of-hearing. Some hearing loss followed a double mastoidectomy. Children do not enjoy going to the movies with him because they must repeat things that he misses. He also talks too loudly, and they must raise their voices in speaking to him. However, he has high ability and is otherwise well adjusted and he secures choices for the luncheon situation. One ear now is practically normal, and his general status seems to be improving.

A knowledge of the whole child in the total field would appear to be a necessary frame of reference for the professional worker with exceptional children, although at times specific procedures may be set up to nurture attributes of the whole.

#### SUMMARY AND IMPLICATIONS

Applications of modern, multivariable longitudinal techniques to the growth of gifted children, mentally retarded children, children of lowered vitality, children with apparent glandular disturbances, children with delayed speech, and those who are disturbed in emotion and behavior have been illustrated in the present chapter. The principles of growth which have been discussed appear to be the same for these as for all children. There tends to be some unity in the samples of structures and functions drawn from an organism. This unity is disturbed in cases of injury, deprivation, or disease. Children from the same family tend to have similar patterns for change with time and for the level of the various attributes of growth.

Achievement in school (when fully nurtured) tends to be a function of the total growth of the child and of the family pattern. The importance of setting standards in terms of the individual child who is growing, rather than in terms of averages, is clearly indicated. The findings underline the importance of techniques which allow for the full variability of the human material.

Since personality is an emergent in the interaction between the potentialities of the individual and the expectations and the requirements of his environment, a sensitive regard for both is essential. The practical

problem in the education of the exceptional child thus becomes the consideration of the total child in a field of social forces.

A philosophy of growth has in it much of value for the worker with exceptional children: Each child is to be assisted in growing according to his stage of maturation without deprivation or forcing in an environment and by a process which also supplies a social direction to his achievements. How this is to be done is described in greater detail in subsequent chapters.

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## CHAPTER V

### GUIDANCE FOR THE EXCEPTIONAL CHILD

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#### INTRODUCTION

The term "guidance" is used in this chapter to refer to all those services rendered to the individual for the purpose of helping him develop the ability to (a) establish suitable goals for himself and (b) discover and organize the means by which these goals can be reached. More simply, guidance may be looked upon as services provided to help the individual develop the ability to make suitable plans for his own activities. While the various aspects of life are, in a sense, inseparable and can by no means be segregated into clearly independent categories, one may find it convenient to apply to certain phases of an individual's activity such descriptive terms as vocational, educational, recreational, civic, and social. The growth of the individual's ability to plan and to choose with respect to any of these areas of activity requires that he have opportunities for a variety of experiences which may be regarded in a broad sense as educational in nature. Complete guidance service will include provisions for: (a) helping the individual to understand himself; (b) fostering in each individual the development of interests and aspirations which are socially acceptable and consistent with his potential capacity for achievement; (c) furnishing him that information concerning his environment which he will need as a basis for his planning; (d) affording him extensive experience in planning and making choices in his day-to-day activities; and (e) helping him discover and gain access to opportunities for putting into action his long-range plans and for achieving his goals.

While there is a basis for regarding guidance as a community responsibility in which many agencies will share, it should be recognized that the

activities which make up a guidance program are, for the most part, essentially educational. Furthermore, the school is the one agency in this country which has extensive and regular contacts with practically all young people through that period of life during which there should be much progress toward achieving the objectives of guidance. Because of this, the school is strategically well situated to play a central role in guidance—a role which no other existing institution can assume with equal effectiveness. While the traditional school, with its emphasis upon the three R's, did not go far toward providing services designed to develop the abilities of its pupils in the area with which guidance is concerned, during recent decades marked progress in this direction has been made, and society is currently demanding still greater emphasis upon guidance in the schools.

The idea of extending education through elementary and secondary levels for everyone has very widespread acceptance in this country. This means, among other things, that exceptional children will generally be included among the clientele of both the elementary and the secondary schools. As a minimum, the schools might be expected to offer their exceptional pupils guidance services equivalent to those generally furnished to all other pupils. Fortunately, the guidance needs of exceptional pupils are not wholly different from those of pupils who are less markedly atypical. Also, the fact that guidance services are, by the very nature of their purposes, necessarily kept mainly on an individual rather than a mass basis favors their adaptation to the peculiar problems of exceptional children—both the handicapped and the gifted. In general, the school which has a highly developed guidance program will find its exceptional children assisted in many respects through the regular operation of that program. Little if any special provisions beyond this will usually be required by the gifted members of the school's clientele. But there are many instances in which it is urgent that the school provide special or unusual services for some of its handicapped pupils. Even when a school has gone as far as possible in its efforts to provide special guidance and related services to its handicapped pupils, the results may fall far short of an acceptable minimum. This is almost certain to be true in a school with an enrolment so small that children with any one type of handicap are encountered only at infrequent intervals. Schools with relatively large enrolments also often find it advisable to obtain the assistance of some outside agency in dealing with the more unusual problems presented by the severely handicapped.

The foregoing comments lead to the classification of guidance services with which handicapped pupils should be provided under three headings, as follows:

- a) Guidance services of the order that the schools should furnish to all who attend.
- b) Guidance services that handicapped pupils need especially because of the existence of their handicaps and that the schools can assume responsibility for furnishing.
- c) Guidance services that come best through the participation of an outside agency whose work can be closely co-ordinated with that of the schools and which has at its disposal special resources for the handicapped beyond those that the schools can supply.

This chapter will be concerned mainly with guidance services belonging to the second and third of these three categories and will give little attention to those parts of the school's guidance services that should be generally available to all children. In other words, it will be devoted to guidance services that handicapped persons need because they are handicapped and that may be provided either (a) by the schools, (b) by some other agency, or, more frequently, (c) by the combined efforts of the schools and other agencies when they work together.

#### GUIDANCE AND PERSONALITY DEVELOPMENT

An individual's ability to plan for a well-ordered life, or for any one of the major life-activities in which he will engage, depends upon certain basic qualities of personality. Guidance services are concerned with and can make important contributions to the individual's personality development. A brief consideration of some of the factors that are involved in the growth of personality, with emphasis on those which operate with unusual force in many handicapped persons, may furnish a starting point for thinking about the nature of the guidance services which handicapped persons require.

*Personality* has been variously defined, and there is no single concept of personality upon which all psychologists agree. After examining fifty definitions of personality, many of which have a good deal in common, Allport offered his own definition as an improvement over those which he had reviewed. He says, "Personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustment to his environment."<sup>1</sup> Whatever the person does, we may look upon it as an expression of his personality. All behavior—everything that the organism does—may be regarded as the organism's attempt to adjust to its environment.

The adjustive process may be described in the following somewhat oversimplified fashion: (1) Every individual has inherent qualities which

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<sup>1</sup> Gordon W. Allport, *Personality: A Psychological Interpretation*. New York: Henry Holt & Co., 1937.

impel him to activity. These needs, drives, or motives are the basis of all behavior. (2) Behavior is directed toward goals, the attainment of which satisfies the needs or motives of the individual. (3) But, if progress toward a goal is thwarted, disorganization of the personality results unless there is (a) a new course of action in an attempt to overcome or by-pass the thwarting barrier and reach the goal, or (b) modification, shifting, or replacement of the goal until satisfying progress toward a goal becomes possible. These processes go on persistently. Actions that result in satisfying achievement are repeated until the development of the organism or changes in the environment require new action patterns. Actions that fail to bring the individual closer to his goals are abandoned (if their results are recognized) and replaced. Those instances in which complete blocking occurs—in which the individual experiences repeated failures and finds no means of progress toward acceptable goals—lead to the disintegration of personality. This description of the adjustive process does not emphasize sufficiently the fact that the needs, drives, motives, and goals of the individual change. They are constantly subjected to the combined influences of maturation and experience. Furthermore, there are usually a variety of ways by which any given need can be satisfied, and to this must be added another fact that is of prime importance—the individual has the capacity for altering his level of aspiration upward or downward in the light of the degree of success he is experiencing. Thus, every person is confronted with the necessity of making repeated choices and evolving plans for action through which whatever choices he makes are to be achieved. This applies to all, no matter whether they have special handicaps or not, though the degree of freedom of choice open to any individual is partly determined by his own abilities or disabilities. A severe handicap of physique or intellect often imposes sweeping restrictions upon the range of choices open to an individual. When such an individual finds his progress constantly impeded by barriers which can hardly be regarded as existing in the environment, because they are obviously characteristic of his own person, he is faced with an especially troublesome condition, so far as his personal adjustment is concerned. Consider, for example, the instance of the physically normal boy who is unable to lift a weight which he would like to lift. Knowing that many other boys are also unable to lift the weight, he can say to himself, "It is too heavy for me." By contrast, when the crippled boy fails at a task which he knows most other boys can perform, he is forced to admit to himself, "I am too weak to lift it." There is a severe personality threat inherent in the necessity of facing constantly a barrier which can neither be by-passed nor removed (e.g., a permanent physical disability) and which stands as an obstacle interfering with movement toward any one

of several goals, each of which has qualities that make it appear as an acceptable substitute for the goal that must be abandoned.

Adjustment (guidance) problems which occur with undue frequency or severity among handicapped persons may be better understood if we consider them in the light of what is known about some of the basic goals toward which all persons strive. Important aspects of personality seem to hinge upon striking an acceptable balance between (a) security and (b) independence and satisfying modes of self-expression.<sup>2</sup> These may be regarded as fundamental in the life of every individual. The need for security leads to behavior directed toward self-preservation, obtaining the physical necessities of life, avoiding dangers and frustrations, establishing and maintaining satisfying emotional relationships with family and friends, and generally gaining acceptance by one's social group. While this need is relatively stronger in children than in adults, it persists as a major element throughout the entire life span of the individual. But even in infancy, the need for independence is also strong. A very young child may struggle vigorously and exhibit rage when his bodily movements are restricted. Observation of the infant's first attempts to feed himself and of the protests he will make if an impatient mother or nurse offers to speed up the meal by using her own greater manipulative skill furnishes another example of the premium put on independent action at this early stage. As the months pass, the child rapidly extends his efforts to control and to show mastery over many elements of his environment. As he grows up he gains great satisfaction from increasing his freedom of movement. The adolescent is notably concerned with demonstrating his independence, though he may also often astonish his parents by seeking from them support and security in ways which cause them concern over his apparent reversion to childish behavior. Mowrer and Kluckhohn,<sup>3</sup> even though they speak of independence as an ideal of adulthood, emphasize the importance of maintaining a delicate balance between too little and too much independence. Apparently the individual's adjustment (in occidental cultures, at least) is reasonably satisfactory only when he has a fair degree of both security and independence. But these two are in a sense antagonistic values, and the individual's efforts in the direction of either one of them may result in his partial loss of the other.

The handicapped person encounters more than an ordinary array of

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<sup>2</sup> A discussion of this point is available in P. M. Symonds, *The Dynamics of Human Adjustment*. New York: D. Appleton-Century Co., 1946.

<sup>3</sup> O. H. Mowrer and Clyde Kluckhohn, "A Dynamic Theory of Personality," *Personality and the Behavior Disorders*, Vol. I. Edited by J. McVicker Hunt. New York: Ronald Press, 1944.

factors that add to his difficulties in achieving and maintaining this balance. The more obvious of these arise from limitations upon his ability to cope with environmental forces which affect his progress toward independence. Physical, sensory, and intellectual handicaps all tend to reduce the range of activities in which the individual can engage or to lower the level of his performance in some of the activities which he undertakes. Thus, unless his goals are especially appropriate to abilities which he possesses or can readily develop, he experiences frustrations with more than ordinary frequency and severity. But there is also another less readily apparent class of adverse influences to be taken into account. From the time when parents first realize that the child is atypical, elements which may predispose toward personality difficulties enter the picture. While we have no authentic basis for estimating precisely the frequency with which parental rejection occurs in relation to handicapped children, there is evidence indicating that parents exhibit a good deal of anxiety when they feel that a child is "not average."<sup>4</sup> Hewitt and Jenkins, in their monograph on the dynamics of maladjustment,<sup>5</sup> advance the view that unsocialized aggressive behavior grows out of early overt parental rejection. This is most likely to occur, they believe, "in children well equipped for successful aggression." The child who is deprived of an opportunity for the security which parental acceptance provides, and who is at the same time so limited in capacity that his attempts at direct aggressive activity regularly fail and result in frustration, is in a position that favors the disorganization of his personality since he is at a disadvantage with respect to both security and independence. In so far as the child's obvious handicaps increase the chances of overt rejection by his parents, we should expect to find a disproportionate occurrence of both aggressive and withdrawing personalities. And since handicapping conditions, especially when severe, reduce the capacity for successful aggressive activity, the second of these two effects would most often result among severely handicapped children in those instances where rejection took place.

The Hewitt-Jenkins position with respect to the effect of parental overprotection may also apply in a special sense to other problems of adjustment that occur in the handicapped child. The presence of an obvious handicap may lead the parents to devote an extraordinary amount of attention to the child. The mother may retain control over almost every detail of his life and offer him very little opportunity to make any

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<sup>4</sup> J. Roswell Gallagher, "There Is No Average Boy," *Atlantic Monthly*, CLXXXIII (1949), 42-45.

<sup>5</sup> L. E. Hewitt and Richard L. Jenkins, *Fundamental Patterns of Maladjustment: The Dynamics of Their Origin*. Springfield, Illinois: State of Illinois, 1946.

decisions for himself. While this kind of overprotection alone may or may not be sufficient to produce an overinhibited and dependent personality, in combination with limitations imposed by crippling or other major handicaps, it can create strong forces leading in this direction. The security afforded by this interpersonal relationship may be highly gratifying to the younger child, but the meagerness of his opportunities for developing independence creates a protracted problem for him. While the effects of overprotection may go largely unnoticed so long as the young child remains at home, as soon as he enters school his lack of security will immediately be disturbing to him. At the same time his social inadequacies will also be readily apparent to his peers. The frustrations he is likely to experience as a result of the probable failure of some of the unskilful efforts he may make in attempting to establish social relationships in the new group into which he has just been thrown will then operate to prevent him from gaining a broader base for the security he needs. Altogether, the overprotected child of limited ability encounters numerous negative influences with respect to the development of his personality. It is common for such a child—one who has enjoyed the security which he found in his early family associations and who has experienced unusual difficulty upon moving into larger social groups—to remain an immature personality. Hypersensitivity, shyness, and withdrawing behavior in general are theoretically to be expected in children with this kind of background.

The best evidence available from observations made upon physically handicapped persons is consistent with the preceding generalizations.<sup>6</sup> Group comparisons between physically handicapped persons and persons free from physical disabilities show that personality problems occur with excessive frequency among the physically handicapped. And of the personality deviations observed in physically handicapped individuals, hypersensitive, withdrawing, overinhibited behavior predominates. At the same time it should be noted that aggressive manifestations also occur with greater frequency than a chance distribution would lead us to expect. This does not mean that physical handicaps regularly result in major personality problems. It is clearly evident that knowledge of the individual's gross physical status does not afford a good basis for predicting the qualities of personality which the individual possesses or has the potentialities for developing.<sup>7</sup> There are large numbers of physically

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<sup>6</sup> A comprehensive and critical survey of publications containing much of this evidence is available in Roger G. Barker, Beatrice A. Wright, and Mollie R. Gonic, *Adjustment to Physical Handicap and Illness*. Social Science Research Council Bulletin No. 55, 1946. New York: Social Science Research Council (230 Park Ave.), 1946.

<sup>7</sup> D. G. Paterson, *Physique and Intellect*. New York: Century Co., 1930.

handicapped persons who exhibit no evidence of any special personality difficulties. Furthermore, essentially every quality of personality which occurs among the physically handicapped may also be found in persons who are without physical deficiencies. And finally, it often happens that two persons with closely similar physical disabilities exhibit strikingly different personalities. A recent report by Dreikurs<sup>8</sup> illustrates this point. The following sketches are condensed from descriptions based upon his observations of three hospitalized children, each of whom had a congenital paraplegia with severe atrophy of the lower extremities, caused by spinal bifida:

D, age 19, responds readily, but in a curt way and not too frankly. He is most outspoken when he complains. And he complains easily, as he does not like anything around him. He is quite opinionated and is angered by those who take an opposite view. He shows distaste for children who cannot use their hands, while he can use his. He gloats if others have to wait for help and he can get what he wants. He enjoys seeing people in uncomfortable and embarrassing situations. He apparently has no friends. When asked about his relationship with other children, he talked about knowing all the nurses. He says he likes to listen to the radio, but finds fault with the one he has. He can read, but gets no pleasure from reading. He depends entirely on others and uses an exaggerated sense of helplessness to intensify his demands upon them. He has little social interest, no courage or self-confidence, and, when asked about his future, he indicates that he never gives it any thought.

E, age 18, is extremely independent, an ambitious girl, and well adjusted except for a violent temper. In an interview she answered easily and fully, without hesitation and in a very pleasant manner. She refuses to have her wheel chair pushed and insists upon wheeling herself. She likes the hospital very much and feels that she gets a chance to do things and is treated like a normal person. Soon after graduating from high school she began a college correspondence course. She expects to go to college as soon as she uses crutches, but the physician is not certain she can do this. She has friends and feels that she is well liked. She does not want to get married, she says, because of fear of hereditary danger to her children. E has a great deal of ambition and courage, but less social interest. She has an obvious desire for superiority and likes to show her ability. She distrusts close relationships and compensates for her physical and social disabilities with her intellectual ambition.

F, age 15, is frank and pleasant. He had a few friends before he came to the hospital, even though he could not go out, and now he has many more in the hospital, where he participates in many activities and is happy and well liked. He gets along well with everyone and does not complain about anything or anybody, except that he has unpleasant memories of his older sister, with whom he did not get along well when he was at home. F tries to conform and to obtain

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<sup>8</sup> Rudolph Dreikurs, "The Sociopsychological Dynamics of Physical Disability: A Review of the Adlerian Concept," *Journal of Social Issues*, IV (1948), 39-54.



his wishes by playing the role of a charming little being. He has sufficient social interest to get along in a friendly and sympathetic group, but his self-confidence and courage are limited, and he seeks protection from a hostile outside world.

Variations as great as those described by Dreikurs can readily be found among persons affected by any one of many other handicapping conditions. One blind man may become highly dependent and accept almost no responsibility; a second may develop some aptitude as compensation but, otherwise, be as helpless as the first; a third, grasping for independence, may carry his compensation to the extreme of attempting to perform without assistance almost every act which is expected of persons with normal vision; and a fourth may select in a realistic fashion the areas in which he can function with reasonable effectiveness and from which he will be able to gain the satisfactions of a fairly well-rounded though necessarily somewhat restricted life. In brief, perhaps the most appropriate generalization concerning the personality qualities to be found among physically handicapped persons will concern their great variety.

#### SPECIAL GUIDANCE NEEDED BY THE HANDICAPPED

While the preceding comments are not offered as a full explanation of personality development, they are sufficient to indicate in part the nature of guidance services needed by handicapped persons. Guidance in general must take into account the unique qualities of the individual. There are wide variations from person to person among the handicapped, so much so that in many respects a handicapped group is likely to be less homogeneous than a group of persons who are free from marked handicaps. Therefore, careful diagnostic study which reveals the individual's unique qualities is of special importance for adequate guidance of handicapped persons. It would be disastrous to base guidance practice for physically handicapped persons upon the false assumption that there is some common "psychology of the physically handicapped" in the sense that similar physical conditions produce or are accompanied by similar psychological traits. The school which assumes that gross physical condition affords an index of the individual's psychological problems risks misunderstanding a very large share of all the children it serves. While we cannot completely disclaim a "psychology of the mentally deficient," guidance must always recognize that wide variations in personality also occur among mentally subnormal persons. Among men of I.Q. 65 to 70, for example, there are some who are steady, efficient workmen and who, in a relatively simple social environment, generally manage their affairs very well, while others of equal physique and the same intellectual level may be quite irresponsible. Here, as in the case of the physically handicapped, the school finds it impossible to base any action upon a single

class of data about its pupils but must, instead, employ extensive clinical study as a basis for diagnosis.

While diagnostic study of a quality that requires the services of a highly competent counselor is desirable, there are many conservative steps that may be taken in the school which lacks these services. Among the measures suitable for use on some occasions the following examples may be mentioned:

1. Introducing activities which the handicapped child may perform as effectively as his classmates
2. Taking steps to assure recognition of the handicapped child's successes
3. Providing opportunities for experiences which may lead to the development of new interests by the handicapped child
4. Teaching motor, social, or other skills which will be prized by the child's peers
5. Modifying group atmosphere through teaching for increased tolerance, appreciation for unusual qualities in others, etc.

The teacher in almost any elementary- or secondary-school environment can ordinarily find ways for employing such simple procedures as these, even though she has little or no help from colleagues with more specialized training than she herself possesses. When more adequate diagnosis is possible, and when the results of treatment can be more cautiously evaluated by the combined efforts of the teacher and one or more specialists, the handicapped child may also be given more intensive forms of treatment. That these run through a considerable range, from the standpoint of the degree of intensity and also from the standpoint of the amount of responsibility that the school can accept for them, will be seen if one considers such practices as the following:

1. Remedial instruction in basic school skills
2. Corrective treatment for speech defects, crippling conditions, etc.
3. The use of play therapy and similar methods in treating emotional problems of the child
4. Re-education of parents through the use of psychotherapeutic techniques
5. Placement in a group where deviations among the members are reduced or where conflicts are avoided (examples are found in the special class, the special school, and the foster home).

Helping the individual to build up the ability to establish suitable goals for himself and to plan their attainment is the central task of guidance. Guidance should help the individual to understand himself and his environment to the point that he will be able to develop goals and aspirations in keeping with his potentialities for achievement. This is of special consequence for the handicapped person. Since his versatility—his freedom of choice—is more or less reduced by his handicap, an accurate understanding of his potentialities assumes more importance than

might be the case for the person with wider range open to him. By accepting limitations that cannot be overcome and developing attainable and satisfying goals within these limitations, the handicapped individual may be as well adjusted as anyone else. There is nothing to be gained by adopting a Pollyanna view of the ease with which this may be done. But, with good guidance, it is certainly possible even though the handicapped often face extraordinary difficulties.

### THE COUNSELOR IN THE SCHOOL

The extraordinary problems of the handicapped suggest that their guidance requires a high order of clinical competence on the part of the counselor. Conditions which are likely to be misunderstood and seriously aggravated by treatment based upon misunderstanding occur with undue frequency. Because of this, there should be a special premium on thorough diagnostic work by the counselor of the handicapped. But the counselor's work goes beyond diagnosis, for, in working with handicapped persons, one must recognize special responsibilities which arise in an environment that includes many elements with which they cannot cope without special aid. It is true that guidance should aim toward making the individual independent, but, for the handicapped, progress toward independence often requires temporary partial support which the counselor may properly provide. This often means, among other things, modifying various environmental factors which affect the adjustment of the handicapped person.

The school that is operating under favorable conditions can develop a program varied and flexible enough to provide the educational experiences necessary for most handicapped children. In a school that has made much progress in this direction, the counselor who is capable of understanding the handicapped child and who is effective in helping the child to understand himself must also have a rather thorough understanding of the school and the ways in which it can be of greatest service to the child. If the school falls short of this standard, the counselor's task is even greater, for he will be successful only to the extent that he is capable of (a) contributing to the modification of the school's program or (b) finding resources outside the school. The majority of counselors who work with handicapped children will probably find both types of action necessary. The extent to which nonschool resources must be sought for the handicapped will vary as problems in different areas of living arise. Even though the schools may offer elaborate opportunities for educational experiences from which the handicapped individual may select the most appropriate, participation in the activities of nonschool groups may often be beneficial. Examples of this kind will occur in the social,

recreational, and civic areas. Some of the most acute cases of need for obtaining outside assistance with guidance problems of the handicapped are to be found in the vocational area. For this reason, and since important provisions for vocational guidance of the handicapped have grown up outside the school, the pages that follow will be devoted to this special problem.

#### THE CONTRIBUTION OF NONSCHOOL AGENCIES TO VOCATIONAL ADJUSTMENT

The individual who suffers any very marked disability commonly faces extraordinary problems of vocational adjustment. Because of this, even in those instances in which the school's facilities for vocational guidance, training, and placement have been developed to the point where the majority of the pupils are relatively well served, effective vocational guidance for pupils who are handicapped requires a special effort and often depends upon the mobilization of resources which the school cannot muster. At this point, the school finds it necessary to turn for assistance to agencies especially equipped to deal with problems peculiar to members of handicapped groups.

Vocational rehabilitation agencies should offer the school strong support so far as guidance for the handicapped is concerned. The basic purpose of vocational rehabilitation is the establishment of the handicapped person in a suitable occupation. The degree of success of any agency attempting to achieve this purpose will obviously depend in a large measure upon the quality of the vocational-guidance service which it renders. Agencies concerned with the vocational adjustment of handicapped persons have made substantial growth during recent years. Working relationships between these agencies and the schools have not kept pace with this growth. The pages that follow are devoted to a brief discussion of the purposes and the operations of some of these agencies and to the consideration of means by which schools may appropriately draw upon them for help.

#### Public Rehabilitation Agencies

The Federal Security Agency includes a division known as the Office of Vocational Rehabilitation. This office is responsible for the development and improvement of standards for the rehabilitation services that each state provides as one of the functions of its state board for vocational education. Federal grants-in-aid for the support of vocational-rehabilitation work by the states are certified by the Office of Vocational Rehabilitation, which exercises a degree of supervision over all state-operated programs. Originally undertaken to assist with the vocational readjustment of persons with permanent physical disabilities resulting

from industrial accidents, publicly financed vocational-rehabilitation work has been expanded during recent years to provide services essential to the vocational adjustment of different classes of physically and mentally handicapped persons. Consideration of the following eight steps, any or all of which may be requisite to the successful vocational adjustment of a particular handicapped individual, suggests working relationships that should be developed by the public rehabilitation agency and the school.

*Identifying the Handicapped.* Publicly supported rehabilitation services should be accessible to all handicapped persons, youth and adults, who are susceptible of rehabilitation. The rehabilitation agency must depend upon co-operation of various other agencies through which it finds the handicapped persons it is to serve. Persons in need of rehabilitation may be referred by educational, health, labor, welfare, and other agencies operating on a broad front. Since the schools work with all children in the community, they have an important share in this referral process. Counselors in the schools should take the responsibility for identifying every young person who, by virtue of his handicaps, is in need of and eligible for rehabilitation service. Ideally, all handicapped youth will be referred to the rehabilitation agency long before they reach employable age so that each individual's vocational plans may be well developed prior to the time for initiating whatever specialized vocational preparation is necessary.

*Medical Examinations.* Each applicant for rehabilitation service should be given a thorough medical examination. In earlier years, this was done primarily to verify eligibility for rehabilitation service; but, in the best modern practice, the results of the medical examination are recognized as of prime importance in determining what kind of job requirements the individual will be physically able to meet. While medical examinations generally will be provided by the rehabilitation agency, there will be many instances in which the school can supply the rehabilitation counselor with useful records of the individual's physical development.

*Physical Restoration.* "Never train around a disability that can be corrected or reduced." The rehabilitation worker holds this as one of his main maxims. Always, before vocational plans are completed, full consideration should be given to the possibilities for improvement of the handicapped individual's physical condition. Schools seldom have complete provisions for the physical restoration of pupils who are handicapped. On the other hand, the vocational rehabilitation service (together with another co-operating agency, the state's division of services for crippled children) accepts this type of work as one of its proper functions and maintains the facilities needed to carry it on. The rehabili-

tation agency usually undertakes to correct or alleviate those physical conditions which can be successfully treated to reduce employment handicaps. It may provide whatever medical or surgical treatment or related services are necessary to increase the individual's work capacity. Prosthetic appliances may be supplied if they are a prerequisite to the proper occupational adjustment of the handicapped individual.

*Counseling.* The importance of effective counseling in rehabilitation cannot be overstressed. Counseling may properly be regarded as the heart of the rehabilitation service. It should begin with the first interview and continue beyond the time when the individual enters upon a job until postplacement supervision is terminated. Effective counseling helps the individual to assess his own strengths and weaknesses, to clarify his goals, and to make plans leading to their attainment through developing his potentialities to the fullest extent. It is through counseling that the individual is assisted in his selection of an appropriate occupational objective and in formulating his plans for its achievement. Along with the results of the medical diagnosis, the counselor considers the results of interest and aptitude tests, records of education and work experience, and various other facts which may be useful in evaluating the appropriateness of a rehabilitation plan for the disabled person. Since counseling must ordinarily extend over a period of years, the school and the rehabilitation agency should accept joint responsibility for this task. During the period prior to entry upon vocational training, the young person who is handicapped in a manner that makes him a prospective rehabilitation client should be receiving help from a counselor in the school. In such an instance, the school counselor should assume essentially the same role as with any other pupil, except that the rehabilitation counselor should also be consulted to make sure that plans being tentatively developed at this early stage will not have to be revised radically in order to conform to an acceptable rehabilitation plan. As such a pupil approaches the time for entrance into vocational training, the rehabilitation counselor should take over the main responsibility so that the transition to specialized preparation for work may be made most readily.

*Vocational Training.* The vocational rehabilitation service often furnishes vocational training as part of the program of preparing the individual for employment. If the secondary school offers vocational courses, the handicapped youth should use these facilities to the extent that they are suited to his needs. When the facilities of the secondary school fall short of providing the complete training program necessary to prepare the trainee for entering his occupation, the rehabilitation agency should assume responsibility for the remainder of the individual's vocational training. The rehabilitation agency does not ordinarily operate

vocational-training courses but, instead, usually follows the practice of contracting with a school or some other agency which can supply suitable specialized training. The school counselor must not overlook the fact that training can be considered as part of a vocational-rehabilitation program only when it is directed toward a definite vocational goal. It is particularly urgent that the counselor in the school and the rehabilitation counselor maintain a liaison which will assure the client's ready transition from the first to the second portions of the training program if it is to be divided in this manner.

*Essential Supplementary Services.* The rehabilitation agency may furnish, under certain circumstances, any one of several types of supplementary service, in so far as this may be necessary to enable the client to carry out a rehabilitation plan in the most effective manner. Among these supplementary services may be included: essential living expenses; transportation; training equipment, material, and supplies requisite to the proper completion of the client's vocational-training program. The handicapped youth who is carrying on part or all of his vocational training in a public school may receive one or more of these types of assistance from the rehabilitation agency.

*Job Placement.* Successful vocational rehabilitation means establishing the handicapped person in a suitable occupation. Placement of the individual in such a way that he can make the best use of his skills and abilities on the job is one of the crucial steps in the rehabilitation process. Since few schools maintain effective placement services, this task ordinarily falls to another agency—although there are instances in which the school may undertake to render a service of this kind to handicapped as well as to other beginning workers.

*Follow-up.* The rehabilitation service should not regard its work with the individual as being satisfactorily completed at the moment when the client goes to his first job. Instead, the final step—follow-up through a period long enough to assure adjustment to the job—is standard practice. The case is properly closed as successful only after this stage has been reached and the worker is being paid the prevailing wage for the job he is doing. The rehabilitation agency will ordinarily be able to maintain follow-up services without much assistance from the school. Co-operation between the school and the rehabilitation agency should be on a basis that will assure systematic reports to the school at the time of closing each case, successful or unsuccessful, which originated through school referral.

No financial qualification is imposed in determining eligibility for vocational counseling, training, placement, and follow-up services furnished through a public rehabilitation agency. Most other expenditures,

including those for medical treatment, prosthesis, living maintenance, and other supplementary matters, are restricted to those who are financially unable to meet expenses of these types.

Public rehabilitation services were formerly available only to certain classes of physically handicapped persons. Under the Barden-La Follette Act (1943), federal provision was made for extending rehabilitation services to any person of employable age who has an occupational handicap imposed by mental or physical disability, provided the individual can be rendered employable through rehabilitation services. Rehabilitation programs are now being expanded beyond the point of providing for persons suffering from orthopedic and sensory defects to include cases arising from varied causes, including brain injuries, diabetes, epilepsy, glandular disfunction, cardiac ailments, psychoses, pulmonary tuberculosis, subnormal intelligence, and numerous others. In general, it should be noted that there are variations from state to state in policy and in the scope and quality of service rendered. The school counselor should familiarize himself with the services provided by the rehabilitation agency of his own state and should make sure that handicapped persons who come through the schools have the opportunity to make appropriate use of public rehabilitation facilities.

### Private Rehabilitation Agencies

Private organizations also provide a variety of services which may play a part in the vocational adjustment of handicapped persons, and, in many instances, the school should obtain assistance from this quarter. It is common for such agencies, especially those which operate in a single community and on a small scale, to emphasize some rather narrowly specialized service and, in many instances, to restrict their work to a single class of handicapped persons, such as the blind, the tuberculous, those who suffer from the residual effects of poliomyelitis, or some other well-defined group. The work of private agencies interested in the handicapped may, in other cases, be specialized in the sense that only a particular service is attempted. Examples of activities delimited in this manner may be seen in the work of placement offices for the handicapped, markets for craft products turned out by handicapped workers, and other kindred enterprises. By way of contrast, there are other private agencies which are concerned with the problems of handicapped persons in general and which carry on comprehensive programs that go far beyond the area of vocational rehabilitation.

There are, in the work of some of the private agencies operating in this field, programs that exemplify the application of a high type of vocational-guidance procedure. The possibilities for developing superior



services on a small scale in a private agency, and thereby demonstrating the effectiveness of techniques which might otherwise be applied only after much delay, if at all, may be seen in the work that has been done by the St. Louis chapter of the American Red Cross. Launched more than two decades ago because of the failure of the state to maintain vocational-rehabilitation services, this program was once concerned with providing vocational rehabilitation on a relatively inclusive scale for the physically handicapped persons of the community. A number of years later, after a state rehabilitation service had been fairly well established in Missouri, the local Red Cross chapter extended its counseling to various groups of nonhandicapped persons and, at the same time, continued to provide a highly intensive and thorough type of service to a limited number of handicapped persons. Through the use of consultation and group conferences, a staff of specialists, including a social worker especially trained in rehabilitation procedures, a vocational psychologist, a consulting psychiatrist, and a physician, have co-ordinated their efforts for handicapped clients in a highly effective way. The working plan which has been evolved has integrated the activities of persons trained in different areas to such an extent that each staff member has learned a great deal through working with his colleagues. While neither schools nor state rehabilitation agencies should attempt to transplant this pattern of work in its entirety, both can find in it much that will suggest means for improving their own services to the handicapped.

The counselor in the school will find it beneficial to become acquainted with all the rehabilitation agencies, public and private, which function in his own community. He will want to discover what kinds of services to the handicapped can be best performed by each. From one he may expect comprehensive services to all young persons who need assistance from the vocational-rehabilitation agency either before or after they leave school. He may turn to another only for some specialized type of service and perhaps for help with only the most unusual problems. A third agency may be able to offer him a most valuable opportunity to learn how he may improve his capacity for dealing with handicapped persons among his own clientele.

There may be instances in which a young person still attending school needs services that require the pooling of efforts of a number of agencies. In such situations a counselor who knows all the agencies should serve as a co-ordinator of their work, in so far as their efforts directly affect the individual. This responsibility should usually be left to the counselor in the school while the child is in elementary school and so long as he is giving all or most of his time to general education in secondary school. With the approach of the time when the individual is to shift to voca-

tional school or to some other special training agency, this co-ordinating function may properly be transferred to a counselor in the rehabilitation service.

### Supplementing the School's Vocational Training

The typical school often finds its vocational-training facilities inadequate for a handicapped pupil whose general educational program it can readily supply. In such an instance, suitable vocational training may require that the pupil eventually transfer to a trade school or some other school which offers specialized training that will lead to the individual's vocational objective. There will also be instances in which supervised on-the-job training affords the best available means for supplementing what the school can provide through its own resources. Whenever the public school program is to be supplemented by on-the-job training, the task of supervision requires careful attention. The history of part-time work-experience programs furnishes too many examples of the difficulties that may arise when the trainee's interests are not properly safeguarded. The relationship between activity that is justifiable in terms of its value as a learning experience and activity which is carried on for the sake of production of useful goods is a complex one. Work experience or on-the-job training is possible only under circumstances that produce goods (or render services), but on-the-job training deteriorates rapidly if what the trainee learns is ignored in order that a product may be turned out more economically. Unless high-grade supervision of on-the-job training is assured, there are strong arguments against its use as a means of supplementing vocational training which can be provided under direct control of the school.

### Vocational Placement

Successful placement is one measure of the quality of vocational guidance. Throughout the history of the vocational-rehabilitation movement, placement has been a matter of major concern. Recent years have brought very encouraging progress in the development of procedures for placing handicapped workers. The method known as "selective placement" has grown out of studies conducted by the United States Employment Service under the pioneering leadership of K. Vernon Banta.<sup>9</sup>

<sup>9</sup> Descriptions of the selective placement process and its applications are available in such volumes as the following:

Clark D. Bridges, *Job Placement of the Physically Handicapped*. New York: McGraw Hill Book Co., 1946.

Arthur T. Jacobs, *How To Use Handicapped Workers*. Chicago: National Foreman's Institute, 1946.

U.S. Employment Service, Federal Security Agency, *Selective Placement for the Handicapped*. Washington: Superintendent of Documents, Government Printing Office, 1945 (revised edition).

Banta, who was concerned especially with placement of the physically handicapped, started with the assumption that a given job can be described in terms of the physical demands it makes upon the worker. Analyses designed to furnish job specifications in these terms have now been made for numerous occupations. The United States Employment Service provides this kind of information to all state employment service offices and encourages its use in staff-training programs. Some of the larger operating offices of state employment services now maintain specialists in the placement of handicapped workers. While there will be occasions when placement can be made directly by the school, an effective working relationship between the school, the rehabilitation agency, and the public employment service is essential to the most effective placement of handicapped youth who are ready to enter the labor market.

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## CHAPTER VI

### THE EDUCATION OF TEACHERS OF SPECIAL CLASSES

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#### INTRODUCTION

There is a prevalent opinion that teachers of exceptional children should first be educated as regular teachers and have experience in teaching normal children. To become teachers of exceptional children they should then specialize in some area of the education of exceptional children. With regular classroom background and additional specialized training, they would then be qualified to teach the appropriate classes of exceptional children. The White House Conference recommended that "teachers preparing for special-class teaching should first have completed the regular course for teachers of normal children, preferably in the elementary grades, and also should have taught normal children for at least two years."<sup>1</sup> This recommendation was made in 1929, when most teachers held a two-year teacher-training diploma. The conference further stated that even graduates of three- or four-year teacher-training institutions offering courses in special education should have some teaching contact with normal children, at least in a practice-teaching situation.

Although teaching experience before specializing in the education of exceptional children is desirable, there are practical limitations to the acceptance of this rule as a requirement in all instances. Some of the difficulties inherent in such a program are:

1. Successful elementary teachers in many cases desire to remain in a teaching area in which they are secure because of their success.

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<sup>1</sup> J. E. Wallace Wallin, "Trends and Needs in the Training of Teachers for Special Classes for Handicapped Children," *Journal of Educational Research*, XXXI (March, 1938), 506-26.

2. Because of the shortage of elementary-school teachers, superintendents are reluctant to encourage successful elementary teachers to change to special fields.
3. The areas of specialization are not the same for all groups of exceptional children, and the amount of training needed varies with different groups. Teachers of normal children may prepare themselves for sight-saving classes or for classes for crippled children in one or two summer sessions. On the other hand, speech correctionists and teachers of the deaf require from a year to a year and a half of specialized training before they are adequately prepared for such work. Very few teachers can afford to continue further specialized education for this length of time in order to prepare themselves for a new position in which the salary is not significantly higher than that for teaching regular classes.
4. Teachers who have changed from regular classroom teaching to special classroom teaching for sentimental rather than professional reasons have not always been successful as teachers of exceptional children. Others who are requested to change retain their "first love" of teaching normal groups and are not satisfied with their new positions.

In general, however, teaching exceptional children is similar in many respects to teaching normal children. Although exceptional children may deviate in sensory, motor, mental, or social characteristics, they possess the same personality characteristics, the same drives, motives, and capacities as normal children, *except* in the area in which they are handicapped.

To this practice of selecting experienced elementary-school teachers with additional specialized background, there is an alternate plan of teacher education which is now practiced by some teacher-training institutions. This plan provides for a four- or five-year curriculum for the preparation of teachers of exceptional children, with a basic elementary curriculum including psychology, educational psychology, principles and techniques of elementary education, and some student-teaching with normal children. In other institutions the specialized courses for some areas of exceptional children are included in either a four-year or a five-year curriculum. Under this plan a student is educated in elementary education, has some practice in a regular classroom, and also obtains specialized training in some area of the education of exceptional children. Such a program has some advantages over the first plan mentioned. It will assure a supply of specially trained teachers for different classes of exceptional children. Moreover, it provides an opportunity during the training period for those who lack the interest or ability essential for success in a special field to change to some other field of study.

In general, then, teachers of exceptional children should first obtain education and experience in teaching normal children (either practice

teaching or teaching in the field) and, in addition, should become specialists in one of the areas of special education. Where the area of specialization requires a long period of education, such as in the fields of speech correction and the education of the deaf, elementary education can be included in the regular teacher-preparation curriculum. Where the area of specialization can be completed in a summer session or two, such as for teachers of sight-saving classes where the curriculum is integrated with the regular grades of the school, it is more appropriate to select a teacher who has had teaching experience with normal children.

### TEACHER TRAINING IN SPECIAL EDUCATION

Several patterns of educating teachers of exceptional children have prevailed throughout the United States. Apprenticeship training, or cadet training, has been a very common method of providing specific professional instruction. During the first quarter of the present century, cadet programs were widely used in state residential schools. Students in training usually spent a year in a residential school under a program which consisted of formal instruction by staff members, together with opportunities for observation and practice teaching. Frequently the trainee had intimate contact with the children during out-of-school hours by performing duties on the playground or in the residence halls. This cadet plan was applied most often to teachers of the deaf, mentally deficient, or blind.

Two of the most widely known training programs were (a) the program for teachers of mental defectives at the Vineland Training School at Vineland, New Jersey, and (b) the program at Perkins Institution for the Blind at Watertown, Massachusetts.

Vineland Training School offered a six weeks' training program for the first time during the summer of 1904. The first three weeks were devoted to a study of feeble-mindedness and the last three to methods of training and discipline.<sup>2</sup> The course grew in popularity and was later approved for college credit by Lehigh University and Rutgers University. A class of fifty-eight teachers received certificates at the conclusion of the 1918 session. Many leaders in the field of education of retarded children had received special training at Vineland by the time this course was discontinued in 1932.

Perkins Institution for the Blind, through affiliation with Harvard University, has offered a training course for instructors of the blind since

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<sup>2</sup> Helen Franklin Hill, "Vineland Summer School for Teachers of Backward and Mentally Deficient Children," *Journal of Exceptional Children*, XI (April, 1945), 203-9.

1921.<sup>3</sup> The program includes methods courses, courses in psychology of the blind, and practice teaching. Many teachers of the blind in both the United States and other countries have received their training in this program.

In recent years, cadet programs have either been discontinued or modified by affiliations of residential schools with collegiate institutions. The residential school has become the laboratory center for well-organized professional study which leads to degrees and certification in an approved college. Examples of good programs of this sort are Clarke School for the Deaf, which is affiliated with Smith College, and Central Institute for the Deaf, which is affiliated with Washington University.

Another pattern of training for special teachers which has been widely used is that of intensive study in summer schools. The American Association To Promote the Teaching of Speech to the Deaf (now the Volta Speech Association for the Deaf) has sponsored such programs through the combined resources of a state school for the deaf and an affiliated college. The National Society for the Prevention of Blindness continues to promote summer sessions conducted in approved colleges and under the direction of institutions approved by the Society.

Courses in professional training at teachers colleges and universities began to appear in the second decade of the present century. College departments of special education began to be established in the twenties. Representative collegiate institutions are: Milwaukee State Teachers College, Detroit Teachers College (now Wayne University), Michigan State Normal College, and Columbia University.

The first report on the opportunities for the preparation of teachers of exceptional children in the United States was made in 1929 by the International Council for the Education of Exceptional Children.<sup>4</sup> At the time of publication of this report, forty-three institutions in the United States (including colleges and residential schools) and two in Canada were offering courses in this field.

Schleier<sup>5</sup> reported in 1931 that ninety-nine colleges and universities were offering some courses on the mentally handicapped. These institutions, however, offered sporadic courses and made no attempt to organize

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<sup>3</sup> Gabriel Farrell, "The Harvard-Perkins Course for Instructors of the Blind," *Journal of Exceptional Children*, X (April, 1944), 170-72, 179.

<sup>4</sup> See: Elise H. Martens, *Opportunities for the Preparation of Teachers of Exceptional Children*, p. 1. United States Office of Education Bulletin No. 17, 1937. Washington: Government Printing Office, 1938.

<sup>5</sup> Louis M. Schleier, *Problems in the Training of Certain Special-Class Teachers*, p. 69. Teachers College Contributions to Education, No. 475. New York: Bureau of Publications, Columbia University, 1931.



a curriculum. Schleier further reported that three teachers colleges and three normal schools had established departments of special education.

A subcommittee of the White House Conference presented a report on special education—the handicapped and the gifted.<sup>6</sup> The report includes a chapter on teacher training and deals with (a) the need for trained teachers, (b) the extent to which the teacher-training institutions were attempting to provide trained teachers, and (c) the quantity and quality of education desirable for teachers of special education. Suggestive curriculums were formulated. This report has had a significant influence on practices in teacher education and is often cited as a standard reference.

In 1931 the United States Office of Education reported that seventy-two institutions offered courses on exceptional children. In a second report prepared in 1937,<sup>7</sup> 118 institutions were recorded as offering at least one course to prospective teachers of exceptional children. From an analysis of the study by the United States Office of Education, the following information is provided:

1. Between the publication of the two reports (1931 and 1937) there was an increase of 66 per cent in the number of institutions offering courses in the education of exceptional children. This increase was considered phenomenal, especially since it took place during the depression years of 1931 to 1936.
2. Actually there were only six colleges in 1936 that offered three or more curriculums leading to a degree in the education of exceptional children.
3. Forty-eight colleges and universities offered a sequence of courses in one or more fields of the education of exceptional children.
4. Although single courses do not adequately prepare teachers of exceptional children, many of the rest of the 118 institutions offered only single courses or summer-school courses.

#### PRESENT FACILITIES<sup>8</sup>

As this yearbook goes to press, a study is in progress of the existing opportunities for the preparation of teachers of exceptional children, made on the basis of data reported for the academic year 1947–48. This study is being carried on jointly by the United States Office of Education and the National Society for Crippled Children and Adults, Inc. Preliminary findings indicate that, of the 688 colleges and universities which replied to the questionnaire sent out, more than 150 offered at least one

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<sup>6</sup> *White House Conference on Child Health and Protection: Special Education*. New York: Century Co., 1931.

<sup>7</sup> Elise H. Martens, *op. cit.*, p. 1.

<sup>8</sup> This section adapted from a paper presented at the convention of the International Council for Exceptional Children, San Francisco, March 1, 1949, by Elise H. Martens, Chief, Exceptional Children and Youth, Office of Education, Federal Security Agency.

course during the year 1947-48 to acquaint prospective teachers with the general problems of exceptional children. Sixty-six reported offering a curriculum or sequence<sup>9</sup> in at least one specialized area. Fourteen institutions offered curriculums or sequences in three or more areas. A general orientation or survey course in special education was reported by 110 institutions.

As one examines in greater detail the data accruing from this study, one finds that, of the fourteen teacher-education institutions in the United States which reported curriculums or sequences in three or more areas of special education, two are located on the Pacific Coast, five are in the Central states, and seven are in the eastern part of the United States. These fourteen institutions constitute what might be termed "officially recognized" training centers for teachers of exceptional children that have comprehensive programs under way. In all but two of them there is an organized division or department of special education with an appointed staff member in charge. Their offerings for the year 1947-48 included, in the order of frequency, courses in the education of the speech handicapped, the acoustically handicapped,<sup>10</sup> the mentally deficient, the partially seeing, the orthopedically handicapped, the emotionally or socially maladjusted, the gifted, the blind, and the delicate. All fourteen institutions offered general survey or orientation courses in the education of all types of exceptional children.

In addition to these fourteen institutions, one must recognize also the many others which reported a curriculum or sequence in one or two areas only. There were fifty-two of these, located in various parts of the United States but still predominantly in the central and eastern states. The specific fields for which preparation is most frequently offered by the total of sixty-six institutions are: (a) speech correction, reported by fifty institutions; (b) education of the deaf and hard-of-hearing, reported by twenty-five; and (c) education of the mentally deficient, reported by twenty-two.

If one asks whether these facilities for the preparation of teachers of exceptional children are adequate, one needs only to compare the number of teachers now at work in the field of special education with an estimated number required for the millions of exceptional children needing special

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<sup>9</sup> A "curriculum" or "sequence" in a given area, as in the education of the mentally deficient, was arbitrarily defined as a progression of at least three courses dealing with that area.

<sup>10</sup> Most of the institutions reporting preparation of teachers of the acoustically handicapped offered courses for teachers of both the deaf and the hard-of-hearing. In a few instances, however, the courses offered in 1947-48 appear to have been limited to one or the other of these two groups.

educational services. In the year 1947-48 there were about 16,000 teachers reported<sup>11</sup> as working in special schools and classes for exceptional children. These teachers were serving approximately 450,000 pupils in residential and day schools. The statistical average number of pupils per teacher was, therefore, twenty-eight. If this average is applied to the estimated 4,000,000 exceptional children needing special educational services,<sup>12</sup> it seems that we would need far more than 100,000 teachers to serve the field adequately. With fewer than 20,000 at work now, it is obvious that the field of special education is wide open for professional service. More teachers must know more about exceptional children. Either the teachers of regular classes must be so prepared or there must be specially prepared teachers in the various areas of special education. The proper education of exceptional children calls for both.

In this whole matter of the preparation of teachers of exceptional children, some very important questions arise as to institutional programs and relationships. How should the teacher-education program be distributed within a state? Should the program be centered in and confined to one college or university? Or should several colleges co-operate, each offering courses in selected fields? What fields of preparation can be most effectively combined? What relationship should exist between the teacher-education institution and a residential school for handicapped children located in its vicinity? Are internships within residential schools a valuable part of the teacher's preparation? If so, what principles of accrediting should be established? How can the teacher-education institution and the state education department work together most effectively in supplying teachers of exceptional children? What certification requirements should be maintained for the various areas?

These are only a few of the many problems that need to be studied. The education of teachers of exceptional children must not be permitted to grow up without plan or organization. Neither would it be wise for every teacher-education institution in the United States to establish a curriculum of this kind. Within a given state or region the need can be measured against the supply in each area of special education. Active interest and co-operation on the part of all the colleges and universities concerned can result in a co-ordinated program that will meet the demand.

#### STATE REQUIREMENTS

States which provide financial support for special classes prescribe training requirements for teaching. These requirements take the form of

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<sup>11</sup> From statistical data reported to the United States Office of Education by city school systems and residential schools.

<sup>12</sup> See chapter i for discussion of "The Extent of the Problem."

special certification or standards for approval enforced by the department of public instruction. Since such a department has supervision over the disbursement of funds, it has effective means for enforcing training requirements. These requirements vary slightly from state to state, but are similar to the requirements set forth in the following sections of this chapter.

#### QUALIFICATIONS OF SPECIAL TEACHERS

Many lists of the qualifications of successful teachers have been prepared. It is generally assumed that these personal qualifications are much the same for all teachers regardless of the specific position. Symonds<sup>13</sup> states, for example, that the teacher should (a) like teaching, (b) be personally secure, have self-respect, dignity, and courage, (c) identify himself with the children, (d) accept aggression of boys and girls, laziness, slowness, etc., (e) be free from anxiety, and (f) not be self-centered or selfish. These traits or characteristics apply equally to teachers of exceptional children. With teachers of exceptional children, the following qualifications seem to be of increased significance.

*Capacity for Self-direction.* Teachers of exceptional children are likely to be on their own more than regular teachers. They have less assistance and less supervision. In many situations the class they teach is the only one of its kind in the building. The principal and the elementary supervisor cannot be expected to give assistance in specialized areas of instruction; therefore, the special teacher must have maximum capacity for self-direction.

*Patience and Perseverance.* The exceptional children, especially those with sensory and learning disabilities, require patience and persistence on the part of the teacher. Learning takes place after great effort on the part of the teacher and the children. Things which normal children learn incidentally must be specifically taught. Teachers of exceptional children must be optimistic and imbued with the determination never to be discouraged.

*Experimentally Minded.* All teachers need to be experimentally minded, but a teacher of exceptional children has fewer published materials and fewer instructional devices at his disposal. Therefore, he must create special curriculum materials and work out unique approaches. He must be eager and willing to try out new and untried approaches. He must be objective and experimentally minded, be resourceful and willing to try uncharted methods.

*Physical Fitness.* Teaching exceptional children in most cases is difficult and trying. Physical limitations on the part of the teacher which in

<sup>13</sup> Percival M. Symonds, "Personality of the Teacher," *Journal of Educational Research*, XL (May, 1947), 654.

any way restrict his service to his children cannot be defended. Individuals who are themselves handicapped may become capable teachers of exceptional children provided their handicap is not similar to the handicap of the children under their care. A teacher with impaired hearing should not be allowed to teach the oral deaf or the hard-of-hearing. An orthopedic defect, for example, need not necessarily interfere with a teacher who is engaged in speech correction or the education of the deaf by oral methods but may be a handicap in teaching crippled children. The main concern is that the handicap of the teacher not interfere in any way with the teaching of the children.

*Personal Adjustment.* The teacher of handicapped children has to deal intimately with children and parents who are facing many personal problems of adjustment. He must be well adjusted to handle such problems successfully and to avoid being unduly influenced in his own adjustment by his relationship with the children and parents. Individuals who become morbid or oversentimental about exceptional children do not become successful teachers. Personal adjustment and security of the teacher of exceptional children is a "must" in qualifications.

#### PROGRAM OF TRAINING

Educating teachers of exceptional children, especially in a four-year curriculum, is a difficult task but is, for the present, the most practical solution. In general, the four- or five-year curriculum consists of four areas of education, namely: (a) general cultural education, (b) elementary and secondary education, (c) courses related to and basic to the study of exceptional children, and (d) areas of specialization.

*General Cultural Education.* This phase of the education of teachers of exceptional children corresponds to what is usually offered during the Freshmen and Sophomore years or during the first two years of junior college. It should include the major areas of knowledge required of all citizens and the knowledge required to teach the content subjects of the elementary school. This area is what is considered the "common learning course."

*Professional Preparation in the Field of Education.* Every teacher of exceptional children should be educated primarily in elementary education. The minimum requirements for this phase during a four-year course should include:

1. Principles of elementary and secondary education
2. Techniques of elementary education
3. Student-teaching with normal children

*Professional Preparation Relating to Exceptional Children.* The following types of courses are of value to all teachers and are sometimes in-

cluded in the curriculum but are of special value to teachers of exceptional children. These are:

1. The psychology and education of all groups of exceptional children
2. Mental hygiene and personality problems of children
3. Educational psychology and/or principles of child growth and development
4. Educational and mental measurement

*Professional Preparation in a Specialized Area of Exceptional Children.* Since teachers of the various groups of exceptional children require different areas of specialization, the most common areas are listed below:

1. Teachers of mentally handicapped children
  - a) Problems of mental deficiency, 2-3 hours
  - b) Speech correction, 2-3 hours
  - c) Clinical and abnormal psychology, 3-4 hours
  - d) Remedial reading, 2-3 hours
  - e) Theories and methods of teaching mentally retarded children, 3-5 hours
  - f) Arts and crafts, 4 hours
  - g) Student-teaching with the mentally handicapped, 3-6 hours
2. Teachers of deaf and hard-of-hearing children<sup>14</sup>
  - a) Phonetics, 2-3 hours
  - b) Speech science—physiology and acoustics, 2-4 hours
  - c) Speech correction, 2-4 hours
  - d) Speech for the deaf, 2-3 hours
  - e) Language for the deaf, 2-4 hours
  - f) Teaching school subjects, 2-3 hours
  - g) Auricular training—hearing aids and audiometric testing, 2-3 hours
  - h) Speech reading, 2 hours
  - i) Student-teaching with deaf children, 6-10 hours
3. Teachers of crippled children
  - a) Survey of orthopedic defects, 3-4 hours
  - b) Organization and administration of schools and classes for crippled children, 2 hours
  - c) Adjustment of classroom instruction, 2 hours
  - d) Speech correction, 2-4 hours
  - e) Practice-teaching with crippled children, 4-6 hours
4. Teachers of speech defectives<sup>15</sup>

<sup>14</sup> This curriculum prepares teachers of the deaf and those hard-of-hearing children whose language deficit is so extreme that they must be educated in a special class. When a less severe hard-of-hearing child is in the regular grades and requires special tutoring in lip reading and auditory training, the itinerant speech correctionist, competent in the teaching of lip reading and auditory training, is capable of rendering this service.

<sup>15</sup> The constitution and by-laws of the American Speech Correction Association [see *Journal of Speech Disorders*, VIII (March, 1943), 3-61] required that a clinical member have the following qualifications: (a) 18 hours in phonetics, anatomy,

- a) Phonetics, 2-3 hours
  - b) Speech science, including anatomy, physiology, and acoustics, 3-6 hours
  - c) Audiometry and use of hearing aids, 2-3 hours
  - d) Speech pathology and speech correction, 6-8 hours
  - e) Lip reading and auditory training, 2-3 hours
  - f) Clinical practice in speech correction, 4-6 hours (200 clock hours of clinical practice)
5. Teachers of sight-saving classes
- a) Diseases and hygiene of the eye, 2 hours
  - b) Organization of classes and instruction, 2-3 hours
  - c) Materials and methods, 2-3 hours
  - d) Student teaching, 2-3 hours
6. Teachers of the Blind
- a) Disease and hygiene of the eye, 2 hours
  - b) Special methods of teaching the blind, 4 hours
  - c) Techniques of Braille—reading and writing, 2-4 hours
  - d) Observation and practice teaching, 2-4 hours

*Laboratory Facilities.* To educate teachers of exceptional children it is necessary that there be adequate laboratory facilities for observation and student teaching with children who are exceptional. These laboratory facilities are represented by three types of centers.

The oldest and probably least frequent today is affiliation of a college with an institution for the deaf, blind, or mentally deficient. Students obtain theoretical training at the college and do practice-teaching at the institution.

The advantages of such an affiliation are found in the large number of children in one locality and in the opportunities the student-teacher has for obtaining a picture of the total life of the child in an institution. The disadvantages are found in the fact that the state institutions are not always close to the college or university and may not have children of the same degree of defect as those educated in the public school. If the institution has not had adequate state support, the teaching staff may not have the qualifications needed for critic teachers.

Another facility that has been available to teacher-education institutions is the use of public school classes for student-teaching. This method has the advantage of devoting funds allotted to a college, usually by a state, for college faculty and research personnel. It also has the advantage of utilizing a situation which is typical of public schools and prepares teachers for situations similar to what they will find when they complete

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physiology, physics of speech, speech pathology, correction, and therapy; (b) at least 12 semester hours in allied subjects such as education, psychology, etc.; (c) at least 200 clock hours of clinical practice under supervision; and (d) one year of clinical experience under competent supervision.

their education. It has the disadvantage of relying on the local public school systems, which in some situations have not made for ideal student-teaching conditions.

The third method is for the teacher-training institution to organize a laboratory school for exceptional children in connection with the college. Although few institutions have such an arrangement, the advantages are that the college staff can supervise the school and set up an ideal student-teaching situation. Its disadvantages are that, when colleges create such a laboratory, much of their allotted funds for this work is appropriated for teaching staff for children, thus limiting funds available for college faculty and for research work. In general, this situation is necessary when the teacher-education institution is in a small community where special classes do not exist in sufficient numbers for student teaching.

#### RECRUITMENT OF STUDENTS

Many teacher-education institutions that have been interested in educating teachers of exceptional children have had difficulty in interesting students in these areas. A number of reasons for this condition may be surmised:

(1) Most students graduating from high school enter universities and teachers colleges with a desire to teach their favorite high-school subject. They have just completed high school, and the teaching area foremost in their minds is secondary-school teaching. Fewer desire to major in elementary education, and still fewer in kindergarten-primary education. The field of exceptional children probably is less familiar to them than any of the other teaching fields.

(2) High-school counselors know more about the field of secondary education, and very few of them are familiar with the field of exceptional children. Hence, students receive very little, if any, information from the secondary-school faculty about the field of teaching exceptional children.

(3) Educational institutions offering a complete curriculum for exceptional children are relatively few. Hence most students do not have access to local educational institutions which offer a curriculum for the education of exceptional children.

(4) There have not been sufficient college faculties to promote the field in colleges and to acquaint the students with the fields of exceptional children. Highly trained individuals, especially at the Doctor's-degree level, are relatively rare. Hence, universities interested in organizing programs for teachers of exceptional children are having great difficulty in obtaining adequately trained personnel.

A recent attempt was made to study some of the essential factors in the



recruitment of special-education teachers.<sup>16</sup> Four hundred and six teachers of handicapped children responded to questions regarding how they happened to enter the field, how satisfied they were with their work, and what suggestions they had for recruitment. The following significant facts were reported:

1. Eighty-seven per cent of these teachers entered special teaching of their own accord; only 7 per cent were placed in the field of administration.
2. One-third of the special teachers were influenced to enter the field by other teachers of exceptional children or by friends or relatives who were handicapped. Another third were influenced by school visits or camp experience with handicapped children.
3. Only 14 per cent stated that guidance instructors of college courses interested them in the field.
4. Eighty-one per cent said they would refuse a transfer to regular grades if it were offered to them; 6 per cent would transfer willingly. Half the teachers replying had had some regular grade-teaching experience.
5. In recruitment programs these teachers thought the personal satisfaction gained for special teaching should be pointed out and that steps should be taken to make the work of special education better known to the general public.

It is apparent from this study that more or less accidental experiences with handicapped children played the major part in recruitment of special-education teachers. A guidance program which provides opportunities for high-school students to have experiences through visitations to institutions and special classes would appear to be most effective. The fact that special teachers are satisfied with their work and feel a personal satisfaction for the good they do would seem to give guidance experts a good foundation for recruitment.

To interest students in the field of exceptional children, it is necessary that both secondary-school and college teachers and counselors become acquainted with the area of exceptional children. They should know the requirements of the various fields, the opportunities that exist, and the nature of the shortage of personnel in this area.<sup>17</sup> In the experience of

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<sup>16</sup> Merry Maude Wallace, "A Study To Determine Some of the Experiences That Influence Teachers Who Enter Special Education." Unpublished Master's thesis, School of Education, University of Michigan, July, 1948.

<sup>17</sup> The Illinois State Department of Public Instruction has issued posters and bulletins to high schools and has interested Science Research Associates, Inc., to publish occupational briefs in this area. Publications are:

*Here's a Job for Your Future: A Career in Special Education of Exceptional Children.* Springfield, Illinois: Department of Public Instruction, Division of Education for Exceptional Children, 1949.

*Teachers of Exceptional Children.* Occupational Briefs, No. 51. Chicago: Science Research Associates, Inc. (228 South Wabash Ave.), 1949.

the authors, there were approximately three jobs for every graduate in the education of exceptional children during the depression years when there was a surplus of all kinds of teachers. Today, the shortage cannot be estimated, except to state that the demand will not be supplied by present educational institutions for a number of years.

A second method of interesting students is to get information about the field to students in colleges, particularly to those interested in teaching. Introductory courses in education, psychology, and health education should include several lectures on exceptional children, preferably by experts in the field. Courses in introductory psychology could include several lectures in this area in relation to the discussion on individual differences. Better still, all students in education should have an orientation course in exceptional children as a part of their education major. Such a procedure during their period of exploration for a field of interest usually informs many beginning students of the fields and of the opportunities.

#### SUMMARY STATEMENT

One hundred thousand teachers of exceptional children will be needed to man the schools and classes of the nation. At present approximately 16,000 such teachers are available.

Teachers of exceptional children are educated by two major plans; namely, giving additional specialized education to experienced elementary teachers or educating teachers in both elementary and special education in a four- or five-year curriculum.

Facilities for the preparation of teachers of exceptional children are increasing. In 1936, forty-eight colleges offered one or more curriculums, and six colleges offered three or more curriculums. In 1947-48, sixty-six colleges offered at least one curriculum and fourteen offered curriculums in three or more areas.

Teachers who enter the field of the education of exceptional children appear to be well satisfied with their choice of profession. Relatively few change to other fields of teaching.

Recruitment of special-education teachers has been difficult because high-school and college counselors are not generally acquainted with the field and because centers for such training are not readily available.

## CHAPTER VII

### PARENTS' PROBLEMS WITH EXCEPTIONAL CHILDREN

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#### INTRODUCTION

In the past two decades emphasis has been increasingly placed upon the co-operation of schoolteachers and parents in promoting the growth and development of all children. One evidence of this is the growth of the parent-teacher movement. In 1948 the National Congress of Parents and Teachers of the United States had five million members and the Canadian Federation of Home and School had one hundred and twenty-five thousand members. In addition, vigorous attempts have been made to change the traditional type of report card into a more effective means of parent-teacher co-operation. Provision for parent-teacher conferences has increased. So have facilities for liaison between home and school by means of visiting teachers, school social workers, home visits by teachers, and by means of bringing the parents into the school not only to observe but also to participate in its activities.

This co-operation between schoolteachers and parents has, particularly in the past decade, spread to the field of special education and has developed beyond the usual means of parent-teacher co-operation to definite programs of parent education. There are many instances of this new trend.

In Illinois the state schools for the deaf and blind conduct an annual two weeks' summer training school for the parents of deaf and blind children. The purpose of such schools is to help parents understand the problems of their handicapped children and to show them how they can best co-operate in the education of these children.

The Bureau for Mentally Deficient and Epileptic of the Division of

Public Institutions of the Department of Social Security of the State of Minnesota published in 1945 a booklet<sup>1</sup> containing practical suggestions to parents for the training of the very slow-learning child.

In New Jersey there was begun in 1943 by the Division of Classification and Education of the Department of Institutions and Agencies a home-training plan for mentally deficient children. The main purpose of this plan is to help the parents, mothers in particular, to train their children at home so that they will become less of a problem and, as a result, be accepted by other members of the family and community. Originally begun as a service to children who were on the waiting list for institutional placement, this plan has now developed into a definite form of parent education.

The National Society for Crippled Children and Adults has long stressed the importance of parent education as an integral phase of its service program. This includes the stimulation of the organization of state councils of parents of cerebral-palsied children.

In addition, the National Society for Crippled Children and Adults provides consultation services in child development and help in nursery-school organization, publishes *The Crippled Child*, and sends out each month thousands of articles, reprints, pamphlets, and leaflets to parents of crippled children. It also provides a film library which covers the various aspects and problems of handicapped children and a resource file on facilities for handicapped children.

The John Tracy Clinic for deaf children at Los Angeles deals with parent education through three mediums: (a) a small, experimental preschool for deaf children and their parents, mother and child entering as a unit, and the mother observing the teachers, helping on the playground, and assisting in the work of the clinic; (b) classes for all parents of deaf children of any age, to which all mothers and fathers of deaf children are welcome; and (c) the correspondence course, which covers a year's work with a preschool deaf child and includes the first lessons in lip reading, language, sense training, and speech preparation.

All of the above examples are indicative of a new philosophy with respect to the education of exceptional children. This philosophy is that every child—exceptional or otherwise—has four sets of teachers. These are his home teachers, his playmate teachers, his schoolteachers, and his community teachers. The latter consist of church organizations, Scouts, boys' and girls' clubs, recreational activities, newspapers, magazines, comics, radio programs, movies, casual contacts with adults on streets

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<sup>1</sup> *Teach Me: A Guide for Parents and Others Who Have the Care of Subnormal Children*. St. Paul, Minnesota: Mental Health Unit, Division of Public Institutions, Department of Social Security, 1945.

and in public places, and the standards held by the adults of the community.

Of the above four sets of teachers, psychologists are agreed that the home teachers are the most important at all stages of a child's development—even after he starts to school. The home teachers of any child are basically responsible for how he comes to feel about himself (worth while or inadequate) and how he comes to feel about others and to act toward them in a social or antisocial way. In addition, the home teachers lay down the basic patterns of family living. The most important pattern of a husband-wife relationship and of a parent-child relationship that boys and girls ever see is the one they see in their own home.

Teachers of regular-class children are coming increasingly to realize that the *homework* done by parents both before the child comes to school at all and throughout his school career affects every aspect of his readiness to learn—from learning to read to learning to co-operate with others in work and play. This is true, too, of exceptional children. The only difference is that the parent of an exceptional child is often less fitted for giving his child the necessary help at home since the parent is apt to rely on the general patterns of training children which he has absorbed from his own childhood home and from the general culture of the society in which he has lived.

The education of all children is, therefore, primarily a partnership between home teachers, schoolteachers, and community teachers. It can be most effective only when these partners have an understanding of each other as individuals and possess common purposes, understandings, and techniques.

This chapter is intended to help teachers and other school officials who have to deal with exceptional children to understand the part which the parents of these children can play in the latter's development. It also plans to indicate some general methods by which parent-teacher co-operation can be secured in the education of such children.

Teachers, and often school officials, should remember that they will be effective in helping parents only to the degree to which they can help the latter to be more understanding and successful in their share in the co-operative enterprise of developing exceptional children. Teachers must be careful that the parents do not merely become overanxious because they are unable to do a perfect job in carrying out all that is expected of them. If parents become so discouraged that they give up trying, or if their self-confidence is so undermined that they become ineffective, then the last stage will be worse than the first. It is important with parents, as with children, to start from where the individual happens to be in his development and to proceed from there. All those who work for the

education of exceptional children must, therefore, endeavor to understand the problems of the parents of exceptional children and to cooperate with them in solving those problems.

### THE DEVELOPMENT OF ATTITUDES IN PARENTS

#### Acceptance

Those who work with handicapped children find that one of the greatest problems of parents of such children lies in being able to accept these children emotionally. It is vital for all children—exceptional or otherwise—that they feel secure in the affection of their parents. In the case of exceptional children this love by parents must not partake of the nature of pity or of the nature of an overcompensation for the parents' feelings of humiliation, guilt, or resentment at having such a child. Love, to be worthy of the name in any human relationship, consists of a sincere desire for the other individual's best good rather than mere self-indulgence of the one who gives the affection. With exceptional children, love cannot be a "reversal-formation" whereby parents shower a child with affection to cover up their unconscious rejection of him. In addition, every child needs not only to be loved but also to feel that he belongs—that he is a desired and desirable member of a family group because of what he himself is and because of his possibilities.

Parents, then, must accept their handicapped child emotionally, but they should be helped to be objective about the child's handicap. This is vital to the mental health of both the child and his parents.

Physicians, psychiatrists, psychologists, social workers, and educators very frequently have to deal with parents who refuse to accept their child's handicap. Sometimes this retreat from reality is found in a refusal to take the child for medical or psychological examination; at other times the parent refuses to look facts in the face and to accept the considered opinion of the competent authority; at still other times the parent is bitter or tearful and has the attitude: "Why did I have to have a child like that?"

#### Methods of Helping Parents to Acceptance

There are many different methods which can be used in helping parents to accept their child's handicap in an objective fashion.

One approach is to start with the parents' acceptance of themselves and of one another. Every human being has to get along with what he has. No one is at one and the same time a great scholar, a great athlete, a great public speaker, a great musician, etc. Indeed, most of us are not any one of these. All have to get along with what they have though many would like to be taller or shorter, more beautiful, more musical, more

brilliant, etc. It is one of the major signs of becoming an adult when an individual comes to accept himself as he is.

Then, too, people choose wives, husbands, and friends not because they are paragons of beauty, intelligence, and special abilities but because they like them for what they are in spite of the limitations which all of them have. If human beings rejected family and friends because they were not perfect, such individuals would be isolated in a world with God and themselves as the sole occupants.

Handicaps in children are, therefore, part of the general problem of human imperfections and limitations which all must face first of all in themselves and secondarily with all other human beings with whom they come in contact.

Parents of exceptional children, then, should be helped to realize that their problem is not unique but a part of the general problem of all parents. Parents are continually being faced with accepting a child who is male instead of female, brown-eyed instead of blue-eyed, short instead of tall, plain instead of beautiful, placid instead of vivacious, and so on through a countless range of preferences.

Teachers can help many parents to accept their handicapped children by discussing with them the democratic view of life, which has been dealt with in chapter i.

Many parents approach life's problems from a religious point of view. They will be helped by being made aware of their belief that every human being is a child of God and of infinite value in His sight.

Many parents will be helped to accept their child emotionally and to take an objective view of his handicap if they can be shown that any other course adds to the child's handicaps and increases their own difficulties. This is a mixture of the unselfish and selfish motives which is characteristic of so much of everyday behavior. Such parents can be shown that it very frequently is not the handicap itself which hinders a child's adjustment but how he himself *feels* about his handicap. How a child feels about his handicap is likely to be, to a considerable degree, a reflection of the attitude of his parents. The handicapped child who is oversensitive or embarrassed about his handicap or who is depressed or resentful because of it is likely to develop defense mechanisms such as boasting, resentfulness, bullying, lying, and stealing; or withdrawing tendencies of extreme shyness, crying, oversensitiveness, and self-pity. Most parents sincerely desire to help their children rather than to handicap them further; a few will be influenced by the cogent argument of avoiding future trouble for themselves.

Probably the best help that can be given parents of exceptional children comes from the understanding of the possibilities of their children

which will be discussed in the next section of this chapter. Instead of concentrating on the fact that the child will never walk, the parents of the crippled child should be helped to concentrate on the fact that the child can be taught to use his hands and to talk. After all, every parent must adjust to what his child *can* be taught to do. The bitterness of a parent who is disappointed that his son of average intelligence is not suited to become an engineer or an author is no different in quality, and often not in quantity, from that of a parent whose child is mentally deficient and who never will become a self-supporting citizen. *All* parents have to focus their attention on their child's unique possibilities rather than on their own ambitions if the child and they, themselves, are to be happy in the family in which they live.

Parents of exceptional children who are gifted sometimes need as much help in accepting their child's talents as do the parents of handicapped children. Indeed, if a child is extremely gifted, his deviation from the group may be considered a handicap. Such a child needs the emotional acceptance of his parents for what he is and for his possibilities. An objective attitude toward the child's gifts is important for his best development. The gifted child will be injured in his development by foolish pride, overindulgence, or overdisplay just as the handicapped child is injured by embarrassment, rejection, or pity.

#### THE DEVELOPMENT OF UNDERSTANDINGS IN PARENTS

Many parents who are frightened or baffled by the problems they face in the handling of their exceptional children will need help from teachers and supervisors in understanding the situation with which they are confronted.

##### Understanding the Exceptional Child's Similarity to Other Children

Parents of exceptional children need to understand that their child is fundamentally like all children everywhere—that he is not a different kind of being, or “queer,” or “a freak,” but that he differs only in having a greater or lesser amount of the qualities or abilities possessed by all human beings. All children, exceptional or otherwise, are unique combinations of qualities and abilities. Every child is different. Every child is an individual, and *all* parents have to start from there. Teachers, principals, and supervisors can do a great deal with individual parents with respect to developing this point of view if they have this viewpoint themselves.

##### Understanding the Basic Needs of All Children

Teachers, other school officials, and social workers often need to give parents of exceptional children help in understanding that *all* children



have the same basic physical and psychological needs; that all children need an adequate and balanced diet, sufficient rest and sleep, a comfortable temperature, and activity when well and rested; that all need to be loved and wanted, to have a reasonable independence in running their own lives and in making their own decisions, to feel a sense of achievement that comes from making things and doing jobs, to win the approval of others for what they are and do, and to feel that they are worthwhile individuals who reasonably come up to their own inner standards. Helping children to find fulfilment for these physical and psychological needs is as much the task of the parents of normal children as it is of the parents of exceptional children.

### Understanding that Different Means Must Be Used in the Education of Exceptional Children

Since the objectives of education for all children are those of self-realization, happy human relationships, economic efficiency, and civic responsibility, parents of exceptional children will have to be helped to understand that it is merely a matter of changing the means of attaining these objectives in the case of their children. To achieve similar ends for exceptional children, there must often be different curriculums and different methods used. Parents often fail to see that the education of their child is a part of the general problem of education. They need to know that they are not fighting a lone battle and that all parents are faced with the problem of helping their children to find fulfilment of their basic needs and to develop to the fullness of their capacities.

Certain practical problems arise in persuading parents that, while the educational objectives are the same as those for all children, the means used in attaining those objectives must differ. The first of these may occur when they find that their child is excluded from public day school, and the second has to do with the parents' reluctance to enrol the child in a special class or special school. Both of these problems are tied up with getting the parents to accept their child's handicap objectively. In addition, the teacher or school official must be able to demonstrate to the parent the great opportunity presented to the child in providing him with curriculum experiences, methods of teaching, and learning aids which have been specially developed for children who have his special handicap.

It is very important that the teacher or other school official who deals with the parent be able to gain the latter's confidence. This is more likely to result if the school officer is able to approach the problem of the child's education from the standpoint of "searching together" with the parent in finding a solution for the child's best development. Such an attitude

will often deter parents from going to the expense of sending their child to a private school. In addition, it will help them to accept the necessity of being on a waiting list for entering their child in a state institution.

### Understanding the Nature of the Parents' Contribution to the Education of Exceptional Children

Teachers, supervisors, and others will need to help parents of exceptional children to understand the relative roles of maturation and learning in the development of children. The latter need to understand that "readiness" is important in the development of all skills and knowledge. They need to know the kind of "homework" they can do to contribute to that readiness and when they must wait on the child's developing nervous system. They need to know that every child—exceptional or otherwise—has his own tempo of development (see chap. iv). They need to understand how their child's handicap will affect his "readiness" for learning different skills and knowledge.

For example, parents need to understand how language develops in all children and the part which every parent plays in that development. In the case of parents of deaf children and mentally deficient children, they need to know that their part in developing language in these children has to be extended beyond what is the case with normal children but that the difference is essentially one of degree. This is an aspect of parent education in which the school must take the lead. Conferences between parents and teachers, supervisors, or principals are especially important in the development of adequate understanding of the part the parents play in the development of their children.

### Understanding the Importance of Co-operating with Their Child's Other Teachers

In general education, it is being increasingly realized that the development of any child is a team job in which four sets of teachers participate—home teachers (parents), playmate teachers, schoolteachers, and community teachers. The phenomenal growth of parent-teacher associations is an evidence of this growing awareness of the need for co-operation between a child's different sets of teachers. In particular, there must be close co-operation between home teachers and schoolteachers. All parents need help in developing techniques of co-operating with their child's schoolteachers. In the case of exceptional children this may seem to be more urgent and to need to be extended to physicians, social workers, and various community agencies. Parents of exceptional children need special help from teachers and educators in making this co-operation effective not only in the preschool period but in the school period as well.

### Understanding the Exceptional Child's Possibilities

Many parents of exceptional children are so overwhelmed by a sense of their child's limitations that they cannot get around to seeing his possibilities. While it is important that they accept their child's limitations in an objective fashion, it is even more important that they be helped to understand his possibilities for development as a human being, as a worker, and as a citizen. They need to understand the general possibilities of individuals possessing their child's handicap and then the specific possibilities of their own child. The teacher is the key person in helping the parent to understand the child's possibilities. He is able to appreciate and to point out the child's assets and his potentialities. Parents are apt to pay much more attention to someone who knows and understands their child as an individual than to one who speaks in general terms.

### Understanding Their Own Reactions

Parents of exceptional children need help in gaining insight into their own reactions to their child's handicap. Whether such parents manifest resentment, shame, embarrassment, rejection, pity, oversolicitude, impatience, or emotional acceptance of their child, it is important that they have help in understanding what lies behind their behavior. In all parent education it is very important for parents to understand their own behavior toward their children: It is urgent in the case of parents of exceptional children. Teachers can aid greatly in helping parents to understand their own reactions. This can be done through informal chats in which the teacher undertakes some nondirective counseling. It can also be effected through discussion groups with the parents of exceptional children where attention may be directly or indirectly focused on helping the parents to understand themselves.

### THE DEVELOPMENT OF SKILLS IN PARENTS

In addition to developing certain attitudes toward their exceptional children and to acquiring certain understandings, there is the additional problem of helping the parents of these children to acquire certain skills so that they may be able to co-operate effectively with the children's other sets of teachers in promoting their best possible growth and development. Many parents whose attitudes are excellent and understandings good do not know *how* to help their children.

### Establishing the Child's Emotional Security in His Own Home

Teachers and other educators need to help parents to realize just what factors hinder the development of a child's sense of security in his own

home. This can be done through informal conferences with parents, through discussion groups with the parents of exceptional children, through parent-teacher meetings, and through bulletins which the school prepares and sends to parents.

Parents should be helped to become aware of the threats to the emotional security of their exceptional children caused by undue quarreling and wrangling in the home, lack of agreement by the parents with respect to discipline, inconsistency in discipline, dominance or coddling of the children by the parents, and the playing of favorites by the parents. The last-mentioned includes favoritism for the exceptional child himself. His own best development will be injured by such a practice.

From a positive point of view, parents need help in knowing how important it is to the exceptional child to feel that he is a valued member of the household. He must feel that he is "no bother at all." Parents whose own emotional maturity is inadequate often pose as martyrs because of the extra care which is required by the exceptional child. This may be their bid for recognition from others even when they do love their child and are glad to care for him. Parents need guidance in understanding that this talking or complaining about their heavy responsibilities will injure their child as it would any normal human being.

Teachers can do a good deal in helping parents to understand the importance of taking time to play with their exceptional child and to share in his fun. Children, like adults, count as their friends those who take the trouble to share their joys and sorrows and to have comradeship with them.

### Building the Child's Physical Health

No matter what form the handicap takes, exceptional children need the best possible basis of physical health that they are capable of developing. This is true of the deaf, the blind, the emotionally disturbed, crippled children, and mentally deficient children. Good physical health will enable these youngsters to put forth more energy in developing their possibilities. The school will need to give mothers of such children some special help in understanding how to provide an adequate and well-balanced diet and to make sure that their children have adequate rest, sleep, and exercise as well as have the benefit of correction of such remediable defects as defective teeth, tonsils, and adenoids. There will, of course, be children with serious health problems, such as cardiopathic conditions, which make it impossible to build up the child's health to a maximum degree. Teachers must be careful that parents of such children are not urged to attempt the impossible and are not made overanxious concerning their children's health. Oversolicitude for any child's health is apt to hinder rather than to promote his best all-round development.

Those who would help the parents of exceptional children need to put them in possession of the best available knowledge of how to build up their children's physical health.

### The Development of Motor Skills

Motor skills are important in meeting the physical and personality needs of all children. They are especially important in the case of exceptional children. First of all, the problems of locomotion are important. Then, too, a huge range of activities in life depends upon skilled manipulation with the hands.

Mentally deficient children often need help in learning to walk and in gaining motor control. Parents must be shown how to give them practice in walking up and down steps, in buttoning buttons, in lacing shoes, in overcoming clumsiness and lack of motor co-ordination.

The Minnesota pamphlet, *Teach Me*,<sup>2</sup> gives concrete suggestions to parents as to how to teach the mentally deficient child such things as drinking from a cup with or without help, holding and using a spoon, using a fork, wiping the mouth, using a knife for spreading, pulling off shoes and socks, putting on hat and shoes, taking off coat and dress, unbuttoning, undressing entirely, going to the toilet, drying own hands, putting away toys, brushing teeth, using handkerchief, and bathing with some help.

Parents need help in knowing that the development of such skills requires a very great deal of regular, systematic, and concrete practice in the case of these children as well as a great deal of encouragement for success and much patience on the part of the parents themselves.

In the case of the cerebral-palsied child, the parent's responsibility is very great, indeed. As Gratke<sup>3</sup> points out, even if the parents live near a treatment center, the time spent there is a small percentage of the twenty-four hours of every day. The rest of the time the child's rehabilitation is the parent's responsibility.

St. James<sup>4</sup> points out that parents of cerebral-palsied children are apt to have undue respect for that which costs money and to fail to realize that their own hands can play a major part in the rehabilitation of their children. Under the direction of the physician, the trained physical therapist, occupational therapist, and speech therapist, parents can follow a home-treatment program that can be effective and worth while.

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<sup>2</sup> *Ibid.*

<sup>3</sup> Juliette M. Gratke, "Cerebral Palsy Is a Challenge to Parents," *Crippled Child*, XXV (February, 1948), 14-15.

<sup>4</sup> Robertine St. James, "Help Your Cerebral-palsied Child," *Crippled Child*, XXV (February, 1948), 4-5, 26-27.

Parents of cerebral-palsied children need help from physicians, physiotherapists, and teachers in learning how to play their part in the rehabilitation of their children. They need to learn the importance of the systematic and conscientious performance of the exercises and activities which have been ordered. They need to have an intelligent attitude toward braces when their use is ordered by the physician. Sometimes braces are used in a preventive or corrective way while the child is growing. Sometimes they are used to lend stability to the weight-bearing joints while walking. Sometimes braces are used only during the day for support and control. In any case the parents' attitude toward braces is likely to determine the child's attitude. It is, therefore, important that the parent know for what purpose the brace is used.

Parents of the cerebral-palsied will need guidance in knowing how to use other special equipment such as special chairs, standing tables, the stabilizer, special kinds of tricycles and skis, etc.

This type of child will need help from his parents in developing many kinds of simple motor skills used in feeding, dressing, and bathing himself.

Teachers, supervisors, and physicians will have to help parents of exceptional children to understand the value of the development of motor skills in the personality development of the child. It is not merely the practical advantage which comes to a child from being able to walk or to use his hands in the elementary processes of living. Rather, it is the fulfilment of the needs for independence, achievement, recognition, and self-esteem which accomplishment in these areas brings.

### The Development of Language

Language is one of the most important tools in any child's development. However, this is doubly true in the case of several types of handicapped children—the deaf, the mentally deficient, the cerebral-palsied, and the blind. Teachers, principals, and supervisors will need to give specific help to the parents of such children so that they may participate effectively in the child's language development.

In the case of the deaf child, the parents' participation in the language development is very urgent. It must start as soon as the child is born. It cannot wait until the child is ready to go to school—not even until the child goes to nursery school, if one is available.

It is vital, for example, that a deaf baby be exposed to the same constant flow of language from which hearing babies profit so greatly. Mothers of hearing babies talk to their children long before they can understand, and such talk greatly contributes to the child's development. Parents of deaf children need to realize the urgent necessity of talking to

their child a great deal right from the first year. They need help in knowing how best to do this. Tracy<sup>5</sup> suggests the following rules: (a) the child must be able to *see* the speaker; (b) the light should be on the speaker's face; (c) the speaker's face should be as nearly as possible on a level with the child's face and not too far away; (d) whole sentences and good language should be used—never single words, broken phrases, or "baby talk"; (e) people should speak clearly and naturally, striving for good diction but without mouthing their words or exaggerating; (f) people should speak a little more slowly, pausing only where pauses would naturally occur; (g) the speaker should not move his head or hands while speaking; (h) the speaker should talk about something that happened yesterday or is going to happen tomorrow—something immediate rather than something more remote.

Parents of blind children need help in understanding how best to develop language in the blind child by talking to him a great deal about experiences, events, and objects, and providing a rich sensory experience for the child through the other senses, particularly touch and hearing.

In connection with the home training of cerebral-palsied children, Gratke<sup>6</sup> says to parents: "If your child is working on mouth closure, lip use, or breathing exercises in his speech-training, you can offer much help to the speech therapist and thus speed up rehabilitation."

### The Development of Skill in Motivating Learning

One of the lessons learned from the educational activities in training men for the armed services in World War II was the tremendous power of motivation. Young men who did not seem to be at all promising but who desperately wanted to be air crew made extraordinary progress in a short time. Eagerness to learn is a vital factor in learning. This is particularly true of exceptional children. The stories of handicapped individuals who have achieved greatness due to strong motivation are abundant in the history of the human race.

It is important that the parents of exceptional children learn the skill of developing in their children an eagerness to learn and a persistence and patience in doing so. This is effected in many ways. First of all the child must have a secure base in emotional security in his own home. Second, his parents must believe in his possibilities. Third, he must have parents who encourage him to learn and who praise his efforts and achievements. Fourth, he must have parents who have patience in helping him and who do not expect too much.

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<sup>5</sup> Louise Treadwell Tracy, "New Avenues to Understanding," *California Parent-Teacher Magazine*, XXI (December, 1944), 8-9, 26.

<sup>6</sup> Gratke, *op. cit.*

The problem of motivating learning is a universal problem shared by all home teachers, schoolteachers, and community teachers. That it is not solved at all adequately in ordinary life is seen in the case of so many children whose eagerness to learn in the preschool period has been effectively killed by the time they have spent some time in school. Parents of exceptional children need to be wiser than the parents of regular-class children in their ability to arouse and sustain in their children an eagerness to learn. Such parents can become wiser only if they are given help by the school. Specially prepared bulletins may be of some help in attaining this. Skilled teachers can demonstrate to parents, when they visit the school, the methods which are successful in stimulating learning. Discussions in parent-teacher associations and in study groups could be of great help. Conferences between the parents and the teachers should be supplemented by visits to the homes by school social workers or visiting teachers. These visits are often necessary to help the parent to apply principles to the specific situation found in the home.

#### The Development of Wholesome Emotional Patterns in Children

Parents need skill in developing wholesome emotional patterns in their exceptional children. Growing up emotionally involves for all children learning to bear tension without blowing up—that is, being able to meet the ordinary disappointments and frustrations of everyday life without resorting to temper tantrums, tears, pouting, sulking, self-pity, oversensitiveness, or neurotic ailments.

It is important for the happiness and success in life of all children—exceptional or otherwise—that their parents learn the technique of a consistent behavior guidance which will help them to make progress in growing up emotionally. This involves firm discipline rather than lax or harsh discipline. For their exceptional children's sake, parents cannot afford to allow a handicap to interfere with the children's growth toward emotional maturity. Parents need to know that the basis for developing such maturity lies in providing for the child adequate satisfactions for his needs for emotional security, independence, achievement, recognition, and self-esteem. Parents, therefore, need to learn how to use as many of the simple, practical principles of child guidance as are available to them.

In the case of children who present emotional problems, these problems usually grow out of the emotional climate of the home and are apt to be the result of the parents' own emotional problems and of their handling of their children. In such cases the school must use every means available to help the parents solve their own emotional difficulties and



improve their guidance of their children. Such means are likely to include parent-teacher conferences, the services of visiting teachers and school social workers, the help of various types of school agencies, including child-guidance and mental-hygiene clinics, and such assistance from family physicians and clergymen as may be obtainable.

### The Development of Good Social Patterns of Behavior

Whatever the exceptional child's handicap, it is vital for his happiness that he have as many contacts with others of his own age as it is possible for him to have. The majority of normal children have such contacts with other children through associations in the home, on the playground, in the street, and at school. Sometimes parents of normal children interfere with the social development of their children by restricting these associations because of fear that their child will be injured physically or morally. The result is bad for the child. Growth toward social maturity involves the ability to make friends among one's age-mates.

Because exceptional children may, as a result of their handicap, have their opportunities for contacts with their age-mates restricted, it is important that the parents learn how to help the child to participate in normal activities so far as circumstances permit.

Parents of exceptional children may need to invite other children into the home to play with their child. They may need to put up with the extra noise and inconvenience which this may occasion them. They must endeavor to keep from dominating the play or from interfering in minor quarrels and dissensions. They must give their handicapped child the chance to play host to his playmates. They must help to see that their handicapped child's playmates accept him in a matter-of-fact way and share in his activities.

Parents must see to it that their exceptional child gets the same kind of guidance, instruction, and practice in the arts of making and keeping friends and of getting along with others as normal children get. They need to help their child develop a variety of skills for living,<sup>7</sup> among which social skills are highly important.<sup>8</sup>

Because of their handicap, the success of many exceptional children in life depends upon their ability to live and work with others. Many slow-learning and other handicapped children become useful and happy citizens because of qualities of co-operativeness, unselfishness, kindness,

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<sup>7</sup> See S. R. Laycock, *Skills for Living. School for Parents Series*. Toronto, Ontario, Canada: Ryerson Press, 1947.

<sup>8</sup> See S. R. Laycock, *The Art of Making and Keeping Friends*. Saskatoon, Saskatchewan, Canada: University of Saskatchewan Bookstore, 1948.

good manners, dependability, and honesty. Parents need help in knowing how to develop these qualities in their children.

In the case of the exceptional child who is socially maladjusted, the school must, first of all, assess its own practices with a view to determining how far its methods of handling such a child have contributed to his becoming exceptional. A careful review should be made of the school's practices with respect to the curriculum experiences, methods of teaching, methods of discipline, and school and classroom organization with a view to determining necessary modifications. Then the school will need to enlist the aid of the various community agencies—health, recreational, social, and religious—in understanding the child's difficulties and in promoting his rehabilitation. Every effort should be made to take the parents into a partnership which involves the searching together of parents and teachers in understanding and rehabilitating the socially maladjusted child.

### Promoting Intellectual Development

In helping exceptional children to realize their greatest possibilities parents need to assist them in developing their intellectual abilities to the utmost. One important aspect of this is the development of certain general intellectual habits and skills. In particular, this involves training children in such techniques as problem-solving and organized thinking. Every human being—young or old, handicapped or normal—meets scores of problems every day of his life. He may tackle these problems with an emotional approach or by a trial-and-error method or he may learn to tackle them systematically by the problem-solving technique, which involves an ordered approach of: "What is the problem?" "What is the present situation?" "What method shall be used in solving the problem?" The development of sound methods of solving the problems of daily living is a gradual process which begins in the preschool period and is one in which the parents participate long before a child ever sees a mathematical or other school problem. Teachers can assist parents in helping their handicapped child to use the problem-solving technique and other devices of good study and thinking at the level of development which the child has reached.

### Helping Children Find Suitable Vocational Outlets

While schools play an increasing role in the vocational guidance of all children, it is important that parents of exceptional children know that they have a real part to play in such guidance. Their refusal to accept emotionally the kind of job which their child *can* do may nullify all the school's best efforts. Their co-operation in helping their child discover what is within his range of possibilities is vital. They have much to con-

tribute to any school counselor about the particular characteristics and background of their child, no matter how skilled and expert the counselor happens to be. The school will be well advised to take the parents of exceptional children into a complete partnership in helping these children discover and realize their vocational possibilities. Frequent consultation is the only safe method.

### The Development of Gifted Children

Parents of gifted children need guidance in knowing how to help their children learn to suffer fools gladly, accept authority where necessary, and learn to co-operate with others. They need help in knowing how to stimulate their children's intellectual curiosity and their creative ability. They need skill in helping such children accept responsibility for leadership without thinking of themselves more highly than they ought to think. They need to see to it that their gifted child leads a reasonably balanced life in which physical development, social and emotional development, and intellectual development all have a due share.

### CONCLUSION

In this chapter it has been suggested that, in the case of exceptional children, schoolteachers and school officials should make every effort to secure the co-operation and to increase the efficiency of their partners, the home teachers.

In carrying out the above, the senior author<sup>9</sup> has suggested that the first step is for the teacher or supervisor to realize that parents are likely to be afraid of him for three reasons: (a) Parents are apt to carry over into their relationships with their child's teachers the fear or resentment which they themselves felt, in their school days, toward their schoolteachers. (b) Parents are apt to think of teachers as omniscient beings and to stand in awe of them. (c) Parents are afraid they will be blamed for having such a child or for mistakes in handling him.

The second step in parent-teacher co-operation is to develop the attitude that the teacher does not know all the answers but that he is "searching, together with the parent," for the right answer.

The third step in effective parent-teacher co-operation lies in the teacher's making known at the first meeting that he likes the child and accepts him emotionally.

The fourth step required of teachers is that they always stress the assets of the child and tell the parent about the child's good points and possibilities before they discuss his difficulties.

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<sup>9</sup> S. R. Laycock, *Wanted! Skill in Co-operating with Parents*. Saskatoon, Saskatchewan, Canada: University of Saskatchewan Bookstore, 1947.

The fifth step needed for parent-teacher co-operation lies in the way that the teacher both gives and receives suggestions.

The sixth step lies in the teacher's realization that he and the parent really see different children. He must take into account that the parent of an exceptional child is often very emotionally involved. The teacher may see the child as a threat to his pride or his ambition or as a means of satisfying his own starved emotions, or as someone to dominate, or in any one of a dozen different ways. Only as the teacher is aware of his attitude will he be tolerant and understanding of the parent's attitude.

Skill in helping parents in better attitudes and understandings of their exceptional children and in better techniques of helping them must be sought after by teachers, supervisors, and other school officials if they hope to be successful in promoting the best development of such children.

*SECTION II*  
NATURE AND NEEDS OF SPECIFIC GROUPS  

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CHAPTER VIII  
TEACHING THE VISUALLY HANDICAPPED  

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INTRODUCTION

Impressions of the world about the individual are received only through the senses. More impressions reach the brain for interpretation through the sense of sight than through all the other senses combined. It is evident, therefore, that any deviation from normal vision has important significance. Since no part of an organism can be affected without in some measure affecting the whole, visual difficulties may influence the life of the individual in its physical, mental, emotional, social, educational, and vocational aspects.

The first concern of all professional and lay groups and individuals is to prevent blindness and other visual impairment by finding the causes—diseases, malformations, accidents, etc.—and by discovering and putting into effect ways and means of eliminating them. The second responsibility is to make adequate provisions for those already affected.

Visually handicapped children may be classified according to one of the following groupings, but since sharp lines of demarcation cannot be drawn, the needs of each child must be considered individually.

*Group 1.*—Children having deviations from generally accepted visual norms that are amenable to medical treatment or that can be so compensated for by optical aids that they may be included, educationally and vocationally, in the group of the normally seeing.

*Group 2.*—Children who have such serious visual impairment that even with

medical treatment and optical aids they cannot use advantageously the educational media provided for the normally seeing, yet have too much sight to make appropriate use of the media provided for the blind.

*Group 3.*—Children who, after receiving all needed medical treatment and optical assistance, are educationally and vocationally blind.

Since, with adequate attention, children in the first group can be included with the normally seeing, this chapter is concerned with the needs of the partially seeing and of the blind.

### THE PARTIALLY SEEING

Partially seeing children are those who, although seriously handicapped by visual impairment, have sufficient sight to make this sense the chief avenue of educational approach. In this group may be found:

1. Children having a visual acuity between 20/70 and 20/200 in the better eye after all possible medical care and optical aid have been provided;
2. Children with serious, progressive eye difficulties;
3. Children suffering from diseases of the eye or diseases of the body that seriously affect vision;
4. Children with normal mentality who, in the opinion of the ophthalmologist and the educational authorities, need and will benefit by the special equipment and opportunities provided for the partially seeing even though they do not fall within the above classifications.

### Discovering Partially Seeing Children

The best method of discovering partially seeing children is by having all children given a thorough medical examination, including an ophthalmological examination, before they enter school and at specified intervals throughout their school life. Where such procedure is not possible, visual screening may be undertaken by the school health service in order to discover children who should be referred for ophthalmological examination. Such screening may be done by the school physician, the school nurse, or by a specially prepared technician or teacher in accordance with state and local laws and procedures. However, regardless of who does the actual screening, wherever possible it should be under the supervision of the school health service. It is the responsibility of the school health service to select a screening device that will give most efficient service and to see that screening tests are conducted under correct conditions. Special attention must be paid to placement and illumination of chart, to observation of reactions of the child during the test and when using his eyes for close or distant vision, and to symptoms or complaints of eye difficulties.

It is further the responsibility of the school health service to follow

through on all referred cases in order that every necessary attention may be given. It is the obligation of parents to have their children examined, but, should they be unable or unwilling to do this, it is the function of the school health service to make every possible effort to see that the necessary attention is provided.

### Educational Facilities

The best method of providing educational facilities for partially seeing children is through the establishment of special classes in public or private school systems. In general, the number of partially seeing children requiring special educational facilities is in the proportion of one to five hundred of the school population. It is, therefore, a simple matter for the educational authorities to judge, at least approximately, the number of such pupils in their school systems and to decide whether the establishment of special classes for them is warranted or if other provisions must be made. Since one class may serve a school district or even a small community, the group will include children of several grades. A school must be selected that has grades corresponding to those represented by the children in the special group; a centrally located school will facilitate transportation.

For partially seeing children living in rural areas or in communities too small to warrant the establishment of a special class, several possibilities may be offered. A class may be established in a consolidated school; a number of small communities may combine to make a class possible; children may be sent to a class in the nearest city and boarded there if necessary, and the state director of special education may give the needed assistance to a teacher in a rural area who has a partially seeing child in her class. If there is no state department of special education, county supervisors of schools may prepare themselves to give such assistance by taking advantage of courses offered by various colleges and universities. Necessary educational material may be supplied by the state department of education.

In any community with a sufficiently large school population to warrant the establishment of special classes there may be partially seeing children in all grades from the first elementary grade through the high school who need special facilities. The first class established is usually for elementary-school children because the sooner the partially seeing child is given the needed educational advantages the greater is the hope of success. However, it is a very short-sighted policy to deprive partially seeing pupils in the upper grades of the greatly needed help since the amount of close eye work required here is far greater than that required in the elementary grades.

### Method of Conducting Classes for the Partially Seeing

Since segregation is not in accord with modern educational principles, a co-operative plan has been developed by which partially seeing children do all their close eye work in the specially equipped classroom under the direction of a teacher adequately prepared to undertake this work. They join their normally seeing companions for all other activities, unless otherwise directed by the eye physician.

*Co-operation.* It is evident that if the above plan is to be carried out successfully the responsibility for the education and health of the partially seeing child must be shared by all concerned—the superintendent, the principal, the school health service, the teachers of regular grades, and the special-class teacher, as well as the parents and the child himself. In order that such co-operation may be most effective, it is essential that all understand the reasons for the establishment of a special class and that all have an appreciation of the many problems entailed and be willing to assume their full share of finding the best possible solution. Above all, perhaps, the partially seeing child must be made to feel equally welcome in the special class and in the regular grade in which he participates in the activities of his normally seeing companions. In order that the partially seeing child may succeed in overcoming his difficulties, all efforts should be directed toward helping him recognize and develop his latent abilities.

*Curriculum.* The same curriculum is followed by partially seeing and normally seeing pupils, equivalent substitutions being made for activities requiring too intensive use of the eyes, such as sewing. Individual attention given by the teacher to the partially seeing child according to his needs makes it possible to maintain standards so that he may participate with his normally seeing companions in regular grade work not requiring close use of the eyes.

*Special Educational Mediums and Equipment.*<sup>1</sup> Because of serious impairment, the eyes of partially seeing children are unable to carry their full share of the complicated process of seeing. Therefore, the eye task must be made easier, and adequate attention must be given to illumination.

1) Educational Mediums. Educational mediums are on a larger scale than those provided for the normally seeing. Type is measured in points, 72 points to the inch. For normally seeing children above the second or third grade, schoolbooks are printed in 10- or 12-point type; for the partially seeing, books are in 24- or 18-point type. The type selected is dis-

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<sup>1</sup> A list of equipment that has been successfully used in classes for the partially seeing may be obtained from the National Society for the Prevention of Blindness, 1790 Broadway, New York 19.



tinct, wide rather than tall, and without unnecessary serifs; the printing is done with black ink on white, off-white, or cream-colored paper with ample spacing and margins, and with clear, easily seen illustrations having little detail. Maps and other educational material follow the same general principles.

Pencils with thick, soft leads are used on large-size white, off-white, or cream-colored paper. Materials for arts and crafts are carefully selected in order that creative activities may be carried on without close eye use or fatigue.

Mechanical devices, such as typewriters, recording machines, radios, etc., are used as widely as possible. The touch system of typewriting is taught in order that material may be prepared without eye use.

2) Illumination.<sup>2</sup> Quality and quantity of illumination, both natural and artificial, are of the utmost importance for all children but especially for those with serious eye difficulties. It is recommended that classrooms for partially seeing pupils be equipped to provide in all parts of the room 50 foot-candles of correctly diffused, distributed, directed, and controlled illumination without glare. In order to obtain the most efficient service from whatever system of illumination is provided, consideration must be given to the reflection factor of all surroundings. It is recommended that ceilings be painted in white, walls in light pastel colors, and woodwork in harmonious hues, and that floors and furniture be in light finish, all in mat surface to prevent glare.

Gray-green chalkboards have a much higher reflection factor than blackboards and offer a good contrast for white chalk sufficiently soft to make a clear, heavy line.

3) Furniture. Movable furniture makes it possible for children to use that part of the room that offers opportunity for the greatest eye comfort and efficiency. Seats and desks that can be adjusted to the growing child and desktops that lift to an angle desirable for correct eye focus are assets in encouraging good posture, which is essential both for general health and for eye health. Light-colored seats and desks not only provide higher reflection value but prevent an undesirable contrast between the paper and the desk or table top.

### Supervision

Supervision of classes for the partially seeing includes the medical and educational supervision provided for all children and, in addition, special ophthalmological and educational supervision according to individual needs.

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<sup>2</sup> For full details, see American Standards Association, *American Standard Practice for School Lighting* (A-23). New York 10: Illuminating Engineering Society (51 Madison Ave.), 1948.

*Ophthalmological Supervision.* Ophthalmological supervision may be under the direction of private or school oculists or may be provided through clinic service. Ophthalmological supervision of the partially seeing should include more than examination of the eyes, check-up on general health, treatment of diseases of the eyes and of diseases of the body that may affect the eyes, and prescribing of lenses for refractive errors. The ophthalmologist should make medical and ophthalmological records available to the school health service and to the special teacher so that they may be fully cognizant of the type of eye difficulty from which the child is suffering and of his general physical condition. Such report should give recommendations regarding the use of the eyes and regarding participation in physical exercises, particularly in gymnasium work. In cases in which glasses are prescribed, the record should state whether these are to be worn only for close eye work or constantly. Records should further state when the child is to return for another examination.

If the school system has the service of an ophthalmologist, the teacher of the partially seeing should have the opportunity of consulting him in regard to changes in eye condition that may require reconsideration of placement. The ophthalmologist should have the opportunity of visiting the special classroom in order to become acquainted with the conditions under which partially seeing pupils carry on their work. In particular, he should be conversant with educational opportunities for the partially seeing in order to advise parents regarding the best possible procedures.

*Educational Supervision.* Educational supervision may be state or local. A state supervisor of special education has the responsibility of developing special educational facilities within the state not only through the establishment, in co-operation with other educational authorities, of special classes for the partially seeing but also through giving the necessary assistance to individual teachers who have a partially seeing pupil for whom no special class arrangements can be made.

Many state and local supervisors have responsibility for the supervision of all types of special classes. It is a distinct advantage if there is a special supervisor for the partially seeing who is adequately prepared and experienced to be able to meet the varied needs. Both state and local supervisors assist teachers in charge of special classes as well as those in smaller communities to solve educational and social problems and to make the adjustments necessary to insure desirable results.

### The Special Teacher

Although the co-operation of all concerned with the child's welfare is necessary, a teacher specially prepared to undertake this work is most important to its success. Such teacher must have a basic knowledge of

anatomy, of the physiology and hygiene of the eye, of refraction and refractive errors, and of common eye diseases. He must keep abreast of advance in medicine, illumination, physical equipment, and educational material and must be familiar with the most approved methods of teaching.

The special teacher must recognize the possible psychological and emotional disturbances that may result from conflicts and inhibitions within the child himself and from the attitude of those with whom he comes in contact. In order that he may guide the child in making decisions and in developing resourcefulness, he must know not only the child's physical and mental possibilities and limitations but also his desires and interests pertaining to his present and his future undertakings. He must realize that, in addition to the problems incident to the growing-up process which all children must learn to solve, any marked deviation from normal growth and development may give rise to special problems. These will differ according to the types of eye difficulties from which the children suffer. Thus, a nearsighted child whose myopia is of sufficient concern to necessitate his placement in a special class may, because of his limited range of vision, develop self-centered personality traits that affect not only his own life but also the lives of those with whom he comes in contact. The wise teacher, realizing this possibility, strives to provide interests and experiences that will be of the utmost assistance to the child in developing tendencies that may be the greatest asset to him in his educational, social, and vocational relationships.

On the other hand, the child with marked hyperopia (farsightedness) must be assisted to conquer his handicaps in quite a different way. His problems arise chiefly from having to use his eyes at close range with distinct discomfort. In such case the teacher, aware of the effort the child must make physically and emotionally, will provide experiences that entail very short periods of attention and will offer such interesting material that the child is willing to concentrate for gradually increasing periods as his ability develops.

The child with high astigmatism is confronted with problems arising from blurred vision, resulting in the misinterpretation of symbols, and sometimes from the discomfort of seeing apparently wavering lines. The well-prepared teacher will use infinite patience and will develop the child's power to discriminate between letters and symbols that look alike to his blurred vision by presenting them in the clearest possible form, with adequate spacing between lines, words, and letters.

The child with low vision may be able to distinguish words but not phrases; hence the teacher will appreciate the probability of his being a slow reader. The child with muscle imbalance may require special atten-

tion because the possibility of seeing double images causes so much confusion that he suppresses the image in the deviating eye. Thus, the special teacher must have the ability to assist each pupil according to his individual needs. In order to gain the co-operation of parents, he must know community resources so that all aspects concerning the child's welfare may be given adequate attention.

### Vocational Guidance

Educational guidance and vocational guidance of the partially seeing are closely related; the former must include the fundamentals upon which the latter is based. To be successful, educational guidance must take into consideration all aspects of the child's personality—his physical and mental abilities and disabilities, his emotional balance, his inherent traits and tendencies, and his own desires. Furthermore, it is essential to know whether the child's desires have been unduly influenced by the opinion of those about him or if they are actually his own. Vocational guidance, likewise, must include consideration of all these factors.

There is no reason why the partially seeing should be barred from professional life or from skilled or unskilled occupations if they are able to undertake whatever they are best fitted to do without hazard to themselves or to others. Aptitude tests are of even greater value for the partially seeing than for the normally seeing; naturally they must be presented in accordance with the visual capabilities of the partially seeing child.

In order that the partially seeing pupil may be given the best possible vocational guidance, it is necessary to have the co-operation of the pupil, his parents, the guidance counselor, the special teacher, and the physician. If vocational training is to follow, all pertinent information regarding the pupil should be made available to the person responsible for deciding upon and initiating such training. Obviously, no one list of occupations can apply to all partially seeing persons alike. As in the case of the normally seeing, the partially seeing youth must give careful consideration to all phases of vocational undertaking before determining what is best for him to follow. In addition, the partially seeing must take into account the difficulties that may arise from his visual handicaps.

### THE BLIND

#### Definition

Children are considered as "blind" for educational purposes when they have a visual acuity of 20/200 or less in the better eye with correcting glasses, or an equally handicapping defect in the visual field. The child on the optimum end of this visual deficiency range is able to use his sight to a

very considerable degree in getting about, in working with his hands, and, last but not least, in observing, while the totally blind child must rely completely on his other senses. In between these two extremes are children who have enough sight to be measured by the Snellen chart, those who have what is commonly called "traveling sight," those who have form or movement perception, and others who have only light perception. The ability to distinguish colors may be present in children with even a very low degree of sight.

#### Causes and Degree of Visual Defect

Eye conditions among pupils in schools for the blind have been reported for many years. For the school year 1945-46,<sup>3</sup> eye reports of 3,689 pupils in schools and classes for the blind were included. Etiology was undetermined in 10.3 per cent, infectious diseases were responsible for 19.8 per cent (ophthalmia neonatorum 9.4 per cent, syphilis 3.9 per cent), trauma for 6.6 per cent, poisoning for 0.2 per cent, neoplasms for 3.7 per cent, and general diseases for 1.4 per cent. Prenatal origin, not elsewhere classified, is reported for 58.1 per cent. In recent years retrolental fibroplasia, an eye defect occurring in prematurely born children, has contributed to an increase in the number of blind preschool children.

The report also shows that, statistically speaking, among ten pupils in classes for the blind, four are totally blind or have only light-perception and almost two have vision of 20/200 or better. About 80 per cent of all pupils were either born blind or lost their sight before five years of age.

#### Other Medical Considerations

A child should only be considered as blind if an eye physician has diagnosed his condition as such. The wearing of prescribed glasses may improve the child's sight. Periodic re-examinations are necessary to determine whether the condition of the eyes has changed. The teacher must see to it that the glasses are worn by the children and kept in good condition. Children whose eyesight can be improved by an operation or who, for reasons of appearance, need surgical correction should receive the required treatment. Since blind children must rely entirely upon their other senses, any physical defects that may interfere with the full employment of them (for instance, hearing or speech defects) should receive careful treatment and attention.

#### Educational Facilities

Under good parental guidance, which often can be achieved only by case-work assistance, the normal blind child is ready to enter school at

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<sup>3</sup>C. Edith Kerby, "What Causes Blindness in Children?" *Sight Saving Review* (Spring 1948), 21.

approximately the same age as a seeing child. At this time he should be able to wash and dress himself, take care of his physical needs, eat with spoon and fork, go about by himself in familiar surroundings, and, of course, talk as freely as would be expected of any child his age; he should play by himself and also be able to establish social contacts with other children and grown-ups. Many parents report good results from sending their children to regular kindergartens where alert teachers, aware of certain special needs of the blind child, have been successful in helping the child in his adjustment to a new physical and social environment.

For most blind children, "going to school" means admission to a residential school for the blind. In some communities they may be educated in public school classes for blind children (Braille classes). Fundamentally, the residential school and the Braille class are designed to assist the blind child, through the use of special methods and aids, in his adjustment to the world in which he must live as an adult. Residential schools provide an educational environment geared in its entirety to the needs of blind children who must spend the greater part of the year at the school. In general, they follow grade by grade the courses of study offered in the public schools. (Braille classes supply only such supplementary assistance as is necessary to enable the blind pupil to participate in regular classroom instruction, a program under which the child does not change his home environment.) Both types can be successful in accomplishing their objectives, as is exemplified by the many well-adjusted blind individuals in all walks of life. Social adjustment of the individual is a most important aim of education. Schools for the blind usually provide for their pupils such social activities as dancing, scouting, and literary and dramatic art clubs. Blind children should also have as many contacts as possible with seeing boys and girls and with people in general. During holidays and summer vacations, which the children spend with their families, they should be given every opportunity to participate in the social life of their age groups and of the community. Some of the residential schools send their students to public schools for the last two or three years of their high-school work, which gives them the advantage of gradual adjustment to the world in which they will live after leaving school.

Braille classes for blind children are established in public schools in many communities with a sufficiently large number of blind children. In a homeroom a specially trained teacher instructs up to ten or twelve blind children in those subjects in which blind pupils cannot follow regular classroom instruction. For the other subjects and activities, Braille-class pupils join in the regular schoolwork. Special provisions are desirable for handicrafts, physical education, and music instruction.

Braille classes receive appliances and books from the American Printing House for the Blind. In many states local school boards are reimbursed for any excess expenditures for the Braille class.

✓ A successful pattern of combining residential school and public school services for blind children is practiced in the state of Oregon. It is based on the principle that no child should be segregated because of his handicap unless it is absolutely necessary. The residential school has one group of pupils who stay at the school until they have completed their training and another group who are there only for the purpose of being made educationally and physically fit for referral to public schools in their home communities. There they are supervised, and their teachers assisted, by a state supervisory program which also supplies them with the required books and other aids.

In 1948, 5,344 pupils were being educated in 64 residential schools, and 532 were enrolled in Braille classes in 24 cities. The state of New Jersey relies mainly on Braille classes and sends residential-school candidates to schools in neighboring states. The latter arrangement is also followed in a few other states that conduct no residential schools of their own.

There are more blind children in the United States than those attending the afore-mentioned training facilities. Some parents take it upon themselves, or engage tutors, to provide education for their children privately; others place them in local schools and assist them at home. Some postpone or neglect to provide any education for their blind child, often because of lack of knowledge about the available training facilities.

### Special Methods

Although the visual handicap has a modifying influence on the development of the child and on the methods used in his education, it must be kept in mind that the blind child is, in most respects, a normal child. His growing intellect, his developing functions, his emotions, and his desires are fundamentally like those of all children. Therefore, anything that can be learned from child psychology and education in general will prove helpful in understanding the blind child's psychological and educational needs. It should also be stressed that the degree of visual handicap varies from individual to individual. The child with even a small amount of sight will consider it one of his greatest assets. If the teacher does not recognize this and treats the child as blind, he may drive him into opposition and resentment.

Teachers of blind children have observed that visual acuity is not always an indication of the child's visual efficiency. Often children with a small amount of sight use it to much greater advantage than those having considerably better sight. Intelligence, home environment, and probably

inclination to certain types of imagery and learning (visual, auditory, and kinesthetic or haptic) may explain this fact.

Blind children require for their education (a) special equipment and mediums as well as (b) the application of special principles of teaching.

*Special Equipment and Mediums.* In their acquisition of knowledge, children who are deprived of the use of sight rely almost exclusively upon their senses of touch and hearing. Whatever they may achieve through these senses does not come to them as a compensating gift of nature but as the result of increased use of the normal senses and laborious effort. Since our educational program is largely based upon the ability to read and write, instruction in Braille—an ingenious system of embossed dots—is the fundamental prerequisite for the blind child's learning. Beginners are taught Braille Grade I, in which a single character represents each letter of the alphabet. Gradually Braille Grade II, which uses contractions and word symbols, is introduced. Some teachers recommend the immediate use of the Grade II contractions. Braille reading is slow in comparison with ink-print reading. The use of the "talking book" (long-playing phonograph records) as a supplementary reading medium enables blind children to cover more ground and acquire much needed additional information. Pictures of three-dimensional objects or scenes in raised outlines have no educational value for blind children. Talking books, however, can be "illustrated" with sound effects or dramatizations to give blind children some equivalent of the book illustrations which enhance the seeing child's reading. Braille has the singular advantage that it can be written as well as read by the blind. Children learn to write it with a stylus and slate or a mechanical Braille writer. Particular attention is also given to practice on the regular typewriter because it permits written communication with the seeing.

In the teaching of mathematics, mental number work is stressed, but the children also learn to use an arithmetic slate for computation. In geometry, embossed diagrams are used. Although it is hard for blind students to keep pace with the course of study in mathematics which is followed in high schools, many of them surmount this difficulty.

In the study of geography, relief maps and globes are used, and excursions are taken to acquaint the children with their surroundings. Visits to museums and the use of specially prepared educational models provide additional experiences. In general, it may be said that practically all subjects can be taught to blind children, although in some of them modified methods are required. This is particularly the case in the study of the sciences, where demonstrations must appeal to the senses of touch, hearing, or smell in order to be meaningful to blind students.

Blind children are, by the nature of their handicap, limited in the



variety of outlets for their creative activity. Drawing and painting are possible only for those who have some vision. Modeling can very well be substituted for these arts. Many blind children show considerable talent in it and derive much pleasure from working with clay and plasticine. Dramatic art in all its forms, from the dramatizing of a fairy tale to the staging of a full-length play, is cultivated. It offers, in addition to the advantages which seeing children derive from it, opportunities for the correction of undesirable habits of posture, of standing and walking, and of speaking. Dramatic art also indirectly furthers social adjustment by improving poise and increasing self-confidence.

The art which most people associate with the blind is music, and indeed there is practically no instrument which the blind child cannot learn to play—provided he has the necessary talent. Obstacles are involved, however, which demand from him much greater effort in acquiring the techniques of instrument playing. Since the blind musician must read the Braille score with his fingers, he cannot at the same time use both hands in playing his instrument. "Sight reading" is, therefore, impossible, and the blind musician must rely upon his memory to a much greater extent than a seeing person. Singing, solo and choral, receives particular attention. Music is recognized as perhaps the most important art activity of the blind and is also stressed as a possible vocation. Moreover, its importance as a social asset should not be overlooked.

Blindness restrains the individual's physical activity. Therefore, gymnastics, corrective posture work, such sports as running, swimming, rowing, wrestling, and all kinds of outdoor activities form an important part of the physical-education program for blind children.

Handicrafts of various kinds are being taught in schools for the blind, and the pupils may become skilful workers at the joiner's bench, with the turning lathe and the potter's wheel, in woodworking, metal-working, basketry or weaving, and in other forms of craftsmanship. Homemaking and household arts are particularly stressed with blind girls. In addition to such prevocational training, blind students also must learn about actual working conditions and get used to the real demands of a job.

Blind students may attend regular colleges and universities or other professional schools and receive assistance from public funds, particularly for the payment of readers. Many books must be read aloud to them because they have not been transcribed in Braille. Recent developments of sound-recording devices are proving valuable aids for blind students of all ages.

The American Printing House for the Blind, 1839 Frankfort Avenue, Louisville, Kentucky, receives an annual appropriation by Congress of \$125,000 to supply embossed books and tangible apparatus to pupils in

residential schools and classes for the blind. It distributes catalogues of its publications and appliances.

The American Foundation for the Blind, 15 West 16th Street, New York 11, New York, supplies information on all matters concerning the blind and lends books and publications from its library to all students of work with the blind. It also conducts educational and technical research.

*Special Principles of Teaching.* Besides the modifications discussed, the teacher must apply certain educational principles which are based on the psychological effects of blindness. Although they are presented here separately, in practice they overlap and fuse.

1) Concreteness. Only through tactual perception can the blind child gain a reality knowledge of the world around him. Hearing has the greatest value as a social contact medium and as a source of descriptive information, but an actual knowledge of objects and their spatial characteristics can only be gained from touch observation. Because of the inherent necessity for direct contact with the object to be observed, the range of tactual observations is limited as compared with visual ones. Objects may be inaccessible, too large, too small, too fragile, or too dangerous to be touched. Also there can be no color perception without the use of sight. Instruction of blind children must give them as many concrete experiences as possible, either by letting them observe the object as such or by providing replicas on which they can observe the characteristic features. The teacher of blind children must understand that his pupils need to become acquainted with objects and materials in their environment and that this acquaintance should not be verbal but must be the result of direct observation. Concreteness will help the blind child to avoid falling into a pattern of unreality and verbalism which may interfere with his later adjustment to the requirements of living.

2) Unified Instruction. Blindness puts the child at a serious disadvantage in experiencing things and situations in their totality. The blind child gains many impressions: He may hear or smell something, he may feel air currents or temperature changes, and he may have touch contact with some part of an object or a situation. But all these impressions are discrete and scattered and remain so unless experience or teaching organizes and unifies them. Blind children, at least during the primary grades, should be taught by the unit plan of instruction and not by unrelated lessons in formal subjects. Such a unit treatment must supply them with informational experiences which they cannot gain by chance observation and should help them to organize their experiences into a structured whole by insight. Topics to be presented as units of study for blind children should be taken from experiences of everyday life such as

the grocery and other stores, the shoe-repair shop and other workshops, the post office and other public institutions, the farm, the city hall, etc.

3) Additional Stimulation. The limitation in the ability to get about is considered the most serious effect of the handicap. As a result of it, the blind child cannot expose himself to the great variety of experiences which are a natural part of the seeing child's life. For this reason the teacher of blind children is confronted with an entirely different task than the teacher of seeing children; it is almost entirely up to him to provide opportunities for the experiences his blind pupils need. There are chiefly two ways in which this additional stimulation can be supplied: The pupils can either be taken to the experiences (study excursions, field trips, museum visits) or the experiences must be brought to them (museum loans, classroom visits by interesting people, radio programs). The effectiveness of these activities depends largely upon the preparatory and follow-up work connected with them. Efforts to supply blind children with educationally desirable experiences must also extend to improving the individual's own ability to get about and secure stimulation for himself. Blind children should learn to move about with ease on familiar grounds and should acquire facility in the most efficient use of the cane. They should also know about all other possible aids in getting about, such as guide dogs, human aid, and all means of transportation. Exercises in mental orientation, starting with a mapping-out of the classroom and extending gradually to orientation in the streets and places of the community, are an essential part of travel instruction.

4) Self-Activity. The blind child is from his earliest days hampered in his activity. Lack of sight limits him in receiving activating stimulation from the outside world and makes imitation based on visual observation impossible. The blind infant, for instance, does not reach out or crawl toward objects, because they do not attract him; the blind child's learning is slower and more difficult because demonstration which can be tactually observed must be employed; conforming with the group is a greater problem because it cannot be learned by watching others. Thus, although the basic patterns of development are the same for blind and seeing children, it is to be expected that the rate of development in such areas as prehension, walking, talking, and socialization may be slower. The blind child must receive training and guidance which will encourage the development of his maturing functions. Self-activity is an essential part of his training because only by coping with his environment will he gain the self-confidence which will enable him to live as a blind person in the world of the seeing. It will also counteract a frequently found tendency to day-dreaming, inactivity, and "blindisms" (awkward behavior-

patterns such as shaking the head rapidly or poking the eyes). The blind child must be encouraged to do as many things for himself as are desirable and compatible with a well-conceived time economy.

### The Teacher of the Blind

Whether serving in a residential school for the blind or in a Braille class, the teacher of blind children must, first, be well prepared as a teacher and, second, have the special training necessary to teach the blind. Some residential schools as well as public school systems recognize the required additional qualifications of teachers of the blind by providing a special salary increment. Teachers must also be aware of the emotional effects of blindness on the child and on his environment, particularly as the latter expresses itself in the attitudes of parents toward their visually handicapped children. A spirit of co-operativeness is essential; in residential schools teachers must work together with their colleagues, with housemothers, and with the parents; and in Braille classes the special teacher must be able to establish and maintain close co-operation with the regular classroom teachers and with the child's home. Educators of blind children must be aware of the threefold task set before them: to help the blind child gain a knowledge of the realities around him, to instil in him the confidence to cope with these realities, and to give him the feeling that he is recognized as an individual in his own right.

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## CHAPTER IX

### TEACHING THE ACOUSTICALLY HANDICAPPED

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#### INTRODUCTION

Impairment of hearing is found among several million persons in the United States. Loss of hearing may be present at birth or may be acquired at any period during a person's life span. The degree of loss may vary from slight to profound and the effect of the loss may manifest itself in varying degrees in personal, emotional, and social adjustment, in educational achievement, and in vocational stability. The earlier in life that loss of hearing is identified, the sooner the individual can be given the special medical and educational assistance he needs to help him assume his place satisfactorily in the society of which he is an integral part.

#### CLASSIFYING CHILDREN WITH HEARING LOSS

Children with defective hearing fall into two main categories, the hard-of-hearing and the deaf. Socially, the significant difference between these two groups lies in the realm of communication. Hard-of-hearing children are able to understand and use speech and language, having learned them through the sense of hearing, defective though that sense may have been. Deaf children, on the other hand, have been deprived of the ability to communicate by means of speech and language because of the high degree of the loss and the early onset of the impairment.

If the hearing of an individual becomes nonfunctional after the acquisition of speech and language, he is not to be considered deaf from the standpoint of his educational needs, though by all physical measurement he may have no usable hearing.

No sharp lines of demarcation can be drawn between the normally hearing and the hard-of-hearing, or between the hard-of-hearing and the

deaf. Many children fall into borderline groups between the main categories.

The following groups, based on educational needs as well as on degree of hearing loss, are suggested only as guides in classifying children with hearing impairment.

- A. Children with slight losses. These children are on the borderline between normal hearing and significant defective hearing.
- B. Children with moderate losses. These are the hard-of-hearing children.
- C. Children with marked losses. These children are on the borderline between the hard-of-hearing and the deaf. They do not have enough hearing to learn language and speech with the unaided ear, but they have residual hearing which can be utilized in their education.
- D. Children with profound losses. These are the deaf children who do not learn speech and language through their ears even with benefit of amplified sound.

#### Group A. Children with Slight Losses

Children with average losses of 20 decibels or less in the speech range (512 to 2048 cycles per second<sup>1</sup>) of the better ear as measured by the pure-tone audiometer generally show no educational maladjustment as a result of this slight hearing loss. This group usually needs no special consideration other than favorable seating in the classroom.

#### Group B. Children with Moderate Losses

Children with average losses of from 25 to 50 or 55 decibels in the speech range in the better ear may begin to show evidence of difficulty in personal, educational, or social adjustments because of hearing loss. Generally these children should be able to receive their education in classes for normally hearing children provided they are favorably seated, receive speech training if necessary, and learn speech reading (or lip reading, a synonymous term for speech reading). Those children whose loss is as great as or greater than 35 decibels<sup>2</sup> in the better ear should also be provided with hearing aids and should receive auditory training.

Special class services may have to be provided for the more severely hard-of-hearing in this group if their adjustments are unsatisfactory in the regular classroom.

#### Group C. Children with Marked Losses

Children whose hearing losses range from about 55 or 60 to 65 or 75 decibels in the speech range in the better ear and who have had a sus-

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<sup>1</sup> H. Fletcher, *Speech and Hearing*, p. 220. New York: D. Van Nostrand & Co., 1929.

<sup>2</sup> H. Newhart and S. Reger, *Syllabus of Audiometric Procedures in the Administration of a Program for the Conservation of Hearing of School Children*, p. 10. American Academy of Ophthalmology and Otolaryngology, April, 1945.

tained loss from very early childhood or babyhood do not learn language and speech through the unaided ear. The sense of hearing may become functional after training with sound amplification over a period of years. These children may be considered "educationally deaf" since they require instruction especially designed to foster the acquisition of language and speech even when they make optimum use of their hearing with the help of a hearing aid. Given adequate educational opportunities they may acquire language and speech rapidly. Initially these children receive their education in schools for the deaf or in special classes from teachers especially trained to develop language and speech. After they have achieved fluency in the use of language and speech, their educational programs may very likely be patterned after those established for hard-of-hearing children.

#### Group D. Children with Profound Losses

Children whose hearing losses range from 70 or 75 decibels to inability to distinguish more than one or two frequencies at the highest measurable level of intensity in the better ear will not be able to understand speech and language through the sense of hearing even when sound amplification is provided. Such losses when sustained from birth or very early childhood typify deaf children who must receive their education from teachers trained to develop the communicative process through very specialized techniques. Educational facilities are provided for these children in schools or classes for the deaf.

#### SIGNS AND SYMPTOMS OF HEARING LOSS

Totally deaf children can be recognized by their nonresponsiveness to near-by sound or speech. Hard-of-hearing children, on the other hand, do respond to sound and speech, and when judged on this criterion alone often pass as normally hearing children. Parents and teachers do not identify the heard-of-hearing child as readily as the deaf child because of this characteristic. Hard-of-hearing children themselves are often unaware of their hearing losses since they have no standards by which to judge themselves as having deficient hearing. Following are some of the signs and symptoms which characterize varying degrees of hearing loss.

#### Group A. Children with Slight Losses

A slightly hard-of-hearing child may occasionally ask that a statement be repeated, or he may have difficulty in understanding faint speech at a distance. On the whole his hearing loss will not cause him any inconvenience in ordinary social or school situations.

A child who has one normal ear and one in which there is a marked impairment may not be able to locate the sound source as easily as an



individual with normal hearing. The child with a loss in only one ear may turn his head to favor himself while listening.

An acute middle-ear infection may cause a temporary loss of hearing. Such evident signs as earache, tenderness or swelling about the ears, and moisture or discharge from the canal should be referred immediately for medical treatment so that what may be only a temporary impairment may not become a permanent loss.

#### Group B. Children with Moderate Losses

A child with a 25 to 30 decibel loss in the speech range in the better ear may sometimes ask that statements be repeated. He may turn his head to help him hear speech which is distant and not distinct.

A 35 decibel loss in hearing seems to be the borderline between being able to get along in social situations requiring the interchange of ideas and not being able to get along comfortably.<sup>3</sup> A child with this degree of hearing loss in the speech range in the better ear may be able to carry on a face-to-face conversation very well, but he will begin to have trouble in following speech when it comes from some distance. He may not be able to understand a person who speaks in a faint voice behind him or to follow a discussion which shifts rapidly from person to person, as it may in the classroom. As the degree of hearing loss increases, the individual will more frequently experience difficulty so that he may be continually asking that statements be repeated. The child may unwittingly misinterpret what has been said because he has not heard correctly. He may not respond when called from the next room.

Children who have severe losses in the speech range are apt not to hear certain high frequency sounds. The most frequently affected sounds are the sibilants (s, z, sh, ch, etc.); these sounds are often lacking or defective in the speech of hard-of-hearing children. If the loss is of long standing and severe in nature, the child's voice may also sound flat and unmodulated.

#### Group C. Children with Marked Losses

Normal conversation is carried on at a level of about 60 decibels. When a child's hearing loss equals or slightly exceeds 60 decibels in the speech range in the better ear, it is more than likely that speech and language will not develop through the sense of hearing. A child with a loss of 60 or 70 decibels may be able to hear loud noises such as dogs barking, airplanes overhead, doors slamming, or horns blowing. He may even respond reflexively to loud voices at close range in test situations. However, since he does not hear speech at a conversational level, he will not learn

<sup>3</sup> H. Davis, Editor, *Hearing and Deafness: A Guide for Laymen*, pp. 156-57. New York: Murray Hill Books, Inc., 1947.

to communicate orally or understand speech through his unaided sense of hearing. He is able to learn to use his hearing in the interpretation of language and speech if proper amplification is provided.

#### Group D. Children with Profound Losses

Profound loss of hearing in an infant is often not identified because the deaf baby babbles and coos much as hearing babies do; but his vocal utterances do not develop into speech because he does not hear. Eventually the babbles cease, but even then parents do not always identify the deafness. A deaf baby does not respond to sound near or behind him. He does not turn his face toward an evident sound source. If a child fails to respond to his name after the age of 6 months, deafness may be suspected. Lack of attention to spoken commands after one year and complete lack of development of speech and language by the age of two or three point to profound or at least marked loss of hearing.

The children with the profound hearing loss from birth or early infancy become, because of almost entire lack of response to sound, what many people are wont to describe as "deaf and dumb." Deaf children are not "dumb." They have capacity to use their voices. They laugh and cry, but they do not speak because they have not heard. Even with the strongest kind of amplification they do not have sufficient hearing to enable them to understand speech, though they may learn to interpret and appreciate some sounds.

#### FINDING CHILDREN WITH HEARING LOSS

It has variously been estimated that from 2 to 12 per cent of the school population suffer from some degree of hearing loss, the most generally accepted estimate being 5 per cent.<sup>4</sup> If 5 per cent of the approximately 30,000,000 school children between the ages of five and eighteen<sup>5</sup> have an impairment of hearing, there are about 1,500,000 such children attending schools in the United States.

Only the early detection of loss of hearing can insure the prevention of possible maladjustments and lead the way to early education of the children who have a hearing impairment. Therefore, it is imperative that the loss be determined at the earliest possible age.

Tests for discovering hearing loss in babies and very young children are still empirical in nature. No tests of scientific validity have been devised to date. Physiological tests such as the galvanic skin response and the electroencephalograph may in the future prove to be of some value in

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<sup>4</sup> *Ibid.*, pp. 354-55.

<sup>5</sup> *School Enrolment of the Civilian Population, October, 1947*. Bureau of the Census Bulletin, Series P-20, No. 13. Washington: Government Printing Office, 1948.

determining hearing loss in babies and very young children. Behavioral clues can furnish a good deal of information concerning the hearing of individual children but cannot give a reliable measure of hearing loss.

The efforts of Dr. and Mrs. A. G. W. Ewing of the University of Manchester, England, to assess the hearing of the young children have resulted in a testing technique that may prove helpful to parents and teachers in indicating educational procedures at the preschool level. The Ewings' technique consists of training children to respond to such sound stimuli as are produced by percussion instruments, pitchpipes, and the voice.<sup>6</sup>

Accepted techniques for testing school-age children show wide variation, but all include the use of the audiometer. Though there is a difference of opinion among investigators as to the age at which a reliable audiometric test can be administered, it is the general consensus that before the age of five or six an audiometric examination may not be reliable.

An adequate program for finding school-age children with impaired hearing, generally referred to as a program for the conservation of hearing, includes periodic audiometric surveys of all children in the school system; and, for those children found to have significant loss, the initial screening should be followed up with a pure-tone diagnostic test, an otological examination, medical treatment where indicated, and educational placement and service.

### The Program for the Conservation of Hearing

A school system may be surveyed in several ways, either by means of the phonograph audiometer, by administration of the individual sweep check<sup>7</sup> on the discrete frequency audiometer, or by use of the group pure-tone audiometer.<sup>8</sup>

A quiet room is a prerequisite for an adequate survey, and every effort should be made to keep conditions favorable for a testing program. The following features of the program should be carefully considered before the survey is undertaken.

*Who Will Do the Testing.* In urban areas where population is concentrated, the school may best be designated as the agent responsible for the

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<sup>6</sup> I. R. Ewing and A. G. W. Ewing, *Opportunity and the Deaf Child*, pp. 8-20. London: University of London Press, 1947.

<sup>7</sup> *Meeting the Needs of the Acoustically Handicapped Child*. Commonwealth of Pennsylvania Bulletin 421. Harrisburg, Pennsylvania: Department of Public Instruction, 1944.

<sup>8</sup> S. Reger and H. A. Newby, "Group Audiometer Pure-Tone Hearing Test," *Journal of Speech Disorders*, XII (March, 1947), 61-66.

testing. If the health department undertakes the testing, every effort must be made to tie its work up with that of the educational administration since rehabilitation of acoustically handicapped children is largely an educational process. Unless provision can be made for follow-up programs, both medical and educational, it is a waste of time, energy, and money to try to find children with hearing losses.

The testing of hearing in rural areas poses a more complicated problem than that for urban areas where equipment is more easily acquired and trained personnel is more apt to be available. In the rural areas and in smaller communities, the state department of public instruction may sponsor, support, or supervise the local programs; or the county health department may be the agency delegated to find children with hearing loss. Equipment may be borrowed by school districts from the state department responsible for programs for exceptional children, and local personnel may be trained by them. The children discovered are then given medical attention and educational assistance in the local community.

The mobile speech-and-hearing clinic sponsored either by public or private social agencies has been used in some states to discover hard-of-hearing children in rural areas and in small communities. This clinic, staffed with trained testers and equipped with suitable instruments, surveys the rural areas of the state and advises local communities as to the educational needs of the children.

*Who Will Be Tested.* Any child who is capable of understanding a specific test of hearing should have the privilege of taking that test. A child below the third grade cannot reliably take the pure-tone group test or the 4-C test without using the monitoring technique. The individual sweep check can be administered as low as the first grade satisfactorily. Some school systems find it impossible to repeat the test annually for all children. Most systems test alternate grades each year (1-3-5-7-9), thereby testing each child biennially.

*How Long It Takes To Screen One Hundred Children.* With the 4-C phonograph audiometer, forty children can be tested in twenty to thirty minutes. Unless machine scoring techniques are available, scoring these test papers requires another forty to sixty minutes. When the time required to set up and check equipment is added, the average amount of time consumed per child is about three minutes. One hundred children could be tested in about three to four hours. On the individual sweep-check test, an average of twenty-five to thirty children can be tested per hour. It would take four to five hours to test one hundred children. Using the group pure-tone audiometer, it would take about one and a half to two hours to test one hundred children, testing thirty children at a time.

*Who Will Be Referred for a Diagnostic Test.* If the 4-C phonograph

audiometer is used in the screening survey, any child showing a loss of 9 SU is referred for a second test.<sup>9</sup> If a child fails the second test, a third screening test is recommended.

If the individual sweep check is used, any child who fails to pass two or more frequencies (set at 10 to 15 decibels above threshold, depending on the noise level of the testing room) is rescreened and referred for an individual pure-tone test.

If the group pure-tone test is used, the child who shows a loss of 20 decibels in one or more frequencies is selected for further screening and diagnosis.<sup>10</sup>

In all types of surveys about 10 to 15 per cent of children screened for the first time are likely to fail to pass the test for a variety of reasons—immaturity, excitement, emotional instability, inability to concentrate, inability to understand directions, lack of rapport, lack of experience with the specific sound stimulus, and a real hearing loss. About 3 to 5 per cent of children may show a real hearing loss when the survey has been completed, but only approximately 1.5 per cent of the school population will need adjusted educational programs.

*Who Will Do the Diagnostic Testing.* The individual pure-tone test should follow for all children selected for further study by the survey. This test should be administered in a sound-treated quiet room by a competent audiologist (a person trained in hearing problems). The agency delegated to assume the responsibility for the hearing-conservation program must provide the trained personnel. In urban areas services may be available as part of the community health program or provided in school hearing clinics maintained by boards of education in co-operation with boards of health. In rural areas a specially trained local technician may be assigned to do the individual auditory testing. The mobile hearing clinic is another possible agent which may be assigned to do the diagnostic testing.

A child showing a loss of 20 decibels in two or more frequencies in either ear on the individual test is to be referred to an otologist for medical examination and treatment where necessary.<sup>11</sup>

*Who Will Furnish the Otological Service.* In large urban centers, deafness-prevention clinics, staffed by otologists, are frequently maintained as an integral part of the hearing-conservation program. Where there are no such clinics, children may be referred directly to otologists, designated by the local, county, or state medical society. In rural areas

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<sup>9</sup> *Meeting the Needs of the Acoustically Handicapped Child*, op. cit.

<sup>10</sup> H. Newby, "Group Pure-Tone Hearing Testing in the Public Schools," *Journal of Speech Disorders*, XII (1947), 357-62.

<sup>11</sup> H. Newhart and S. Reger, op. cit., p. 10.

the mobile clinic may provide otological service where children are unable to come to urban centers for medical diagnosis. Interviews and counseling with parents to make use of medical service is frequently necessary to complete this part of the program. It is vital to the success of the conservation-of-hearing program as well as to the individual child with lowered hearing acuity that every child selected for further study have a medical examination and that treatment be provided if the need is indicated. In some cases treatment can alleviate the causes of the hearing impairment and good hearing can be restored. In others, incipient losses or hearing impairment can be detected and loss prevented. Every effort should be made to see that all children receive medical attention before educational recommendations and referrals are made.

*Who Will Be Responsible for the Educational Program.* The school has the responsibility for the educational program for children with hearing losses. Each child should be treated according to his individual needs. The factors to be considered in making educational adjustments for the child are the type and severity of the loss, the prognosis of the hearing loss, the child's intelligence, his school achievement, and his personal, social, and emotional adjustments. Well-trained teachers who understand the problems of hearing loss should be responsible for the child's education.

#### CHARACTERISTICS OF CHILDREN WITH HEARING LOSS

A considerable amount of factual material concerning the characteristics of children with impaired hearing has been collected during the last quarter of a century. Many studies treat the deaf and the hard-of-hearing as a homogeneous group on the premise that hearing loss, no matter to what degree, results in certain characteristics. The characteristics of children with impaired hearing will here be reported separately, wherever possible, for the deaf and for hard-of-hearing children, since the two groups show such marked differences in educational needs.

#### Intelligence

The intelligence of children with impaired hearing has been investigated in a considerable number of studies. Pintner reports that on performance tests (such as the Grace Arthur, Pintner-Patterson, Drever-Collings, Goodenough, Porteus maze, and the like) the approximate I.Q. for deaf children is about 91.<sup>12</sup> Lane and Silverman<sup>13</sup> contend that the general intelligence of the deaf as a group is normal when the use of lan-

<sup>12</sup> R. Pintner, J. Eisenson, and M. Stanton, *The Psychology of the Physically Handicapped*, pp. 110-22, 189-92. New York: F. S. Crofts & Co., 1941.

<sup>13</sup> H. Davis, Editor, *Hearing and Deafness: A Guide for Laymen*, pp. 374-75. New York: Murray Hill Books, Inc., 1947.

guage is excluded. Myklebust<sup>14</sup> points out that children with auditory defects fall within the average limits of intelligence when standardized tests are used.

There is a general consensus that the intelligence of hard-of-hearing children is equal to that of normal children on nonlanguage tests and shows only a slight difference in favor of the hearing as a group on tests which involve language.

### Educational Achievement

All surveys conducted on the achievement of deaf children show a severe educational retardation. In terms of years of retardation, it would appear that the deaf are retarded from three to four years. In terms of quotients, the educational quotient for the deaf is about 70.

The hard-of-hearing as a group show only a slight educational retardation. When individual hard-of-hearing children are equated with hearing children for intelligence, the difference disappears.<sup>15</sup>

### Personality and Social Adjustments

According to Brunschwig, a pioneer in the field of personality adjustments of deaf children,<sup>16</sup> there is a wide range of opinion concerning the personality structure of the deaf as a group but no consistent tendency which might describe or characterize the group. In controlled studies by various investigators<sup>17</sup> on school children, college students, and adults, the conclusion has been reached that the deaf are not separated widely from the hearing by any great differences of personality and adjustment. Small differences were found to exist, and it would seem safe to say that deafness has some influence on adjustment. The deaf find it a little more difficult to adjust to their environment; they are probably more unstable emotionally and a little more introverted and submissive.

Hard-of-hearing children have been studied by Pintner, Habbe, and others.<sup>18</sup> Again no great differences were found between the hard-of-hearing and normally hearing children as to personality and adjustment, but slight differences in the areas of submissiveness and introversion

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<sup>14</sup> H. Myklebust, "Clinical Psychology and Children with Impaired Hearing," *Volta Review*, L (February, 1948), 55.

<sup>15</sup> Pintner, *et al.*, *op. cit.*, pp. 130-50, 192-95.

<sup>16</sup> L. Brunschwig, *A Study of Some Personality Aspects of Deaf Children*. Teachers College Contributions to Education No. 687. New York: Bureau of Publications, Teachers College, Columbia University, 1936.

<sup>17</sup> Pintner *et al.*, *op. cit.*, pp. 150-65.

<sup>18</sup> Pintner *et al.*, *op. cit.*, pp. 195-204; Stephen Habbe, *Personality Adjustments of Adolescent Boys with Impaired Hearing* (New York: Teachers College, Columbia University, 1936).

were noted. Hard-of-hearing children do not seem to feel quite so well adjusted as the normally hearing.

Studies on the social competence of deaf children have been reported for children in an institution and in a large day school. Those in institutions were found by Bradway<sup>19</sup> to have a mean social quotient of about 80, while those in the public day school were found by Streng and Kirk<sup>20</sup> to have a mean social quotient of 96. Further study by Avery<sup>21</sup> of pre-school deaf children found them to be equal to normal children in social competence. The divergence in the results of the studies in the social maturity of deaf children in institutions and day schools may be the result of selection by the day schools of the brighter children.

### Aptitude and Motor Ability

Investigation has brought out the fact that deaf boys are equal to hearing boys in mechanical aptitude.<sup>22</sup> Myklebust<sup>23</sup> has studied the results of objective tests of mechanical aptitude given to deaf boys between the ages of twelve and twenty-one and has found them useful in a vocational-guidance program.

Deaf children suffering from a specific type of hearing loss are known to have disturbances of equilibrium. The area of motor ability has not been sufficiently investigated, and its significance has not been determined in the education of the deaf.

### CAUSES

Impairment of hearing may be either congenital or acquired. The causes of congenital deafness, that which occurs before birth, are frequently obscure. Heredity seems to play a part, although no clear-cut pattern has been indisputably established as a result of studies in this field. There still prevails a strong trend in the belief that deafness is Mendelian in its incidence.<sup>24</sup>

<sup>19</sup> K. P. Bradway, "The Social Competence of Deaf Children," *American Annals of the Deaf*, LXXXII (1937), 122-24.

<sup>20</sup> A. Streng and S. A. Kirk, "The Social Competence of Deaf and Hard-of-hearing," *American Annals of the Deaf*, LXXXIII (1938), 244-53.

<sup>21</sup> Charlotte Avery, "The Social Competence of Preschool Acoustically Handicapped Children," *Volta Review*, L (June, 1948), 256-57.

<sup>22</sup> M. Stanton, *Mechanical Ability of Deaf Children*. Teachers College Contributions to Education No. 751. New York: Bureau of Publications, Teachers College, Columbia University, 1938.

<sup>23</sup> H. R. Myklebust, "A Study of the Usefulness of Objective Measures of Mechanical Aptitude in Guidance Programs for the Hypacoustic," *American Annals of the Deaf*, XCI (1946), 123-50, 205-25.

<sup>24</sup> F. Lederer, *Diseases of the Ear, Nose, and Throat*, p. 288. Philadelphia: F. A. Davis Co., 1943.



Consanguinity<sup>25</sup> also plays a role in the etiology of deafness. It is generally accepted that children of related parents who were both born deaf will undoubtedly also be either born deaf or become deaf early in life.

Infectious illnesses in the mother during pregnancy may be a contributing cause to congenital cases of deafness. In recent years it has been learned that children of mothers who have had rubella (German measles) in the first three months of pregnancy are usually born with one or more physical handicaps, deafness and blindness being the most common.<sup>26</sup> Typical congenital rubellas almost universally have the triple handicap of hearing loss, visual loss, and poor motor control—a combination which presents a most complex educational problem. If German measles can cause this much damage, then it is probable that other infectious illnesses experienced by mothers during early pregnancy may similarly be responsible for many of our congenitally deaf children.

The causes of acquired impairment of hearing are much easier to identify, since the hearing loss can usually be related to some illness or accident. Of the acute infectious diseases, epidemic meningitis is the commonest cause of acquired deafness, with measles rated second and scarlet fever and influenza next in frequency.<sup>27</sup> Whether drugs such as penicillin and sulfa will, in time, reduce the number of these cases, only the future will reveal.

Repeated examinations of public school children have shown that adenoids recur in over 75 per cent of those whose adenoids and tonsils had been removed earlier. Nearly 40 per cent of these children had impaired hearing for high tones alone or for all tones in the speech range.<sup>28</sup> Since adenoids and tonsils indirectly cause loss of hearing by blocking the Eustachian tube, systematic examination of throat, pharynx, and ears of school children is indicated as a preventive measure.

#### NEEDS AND EDUCATION OF CHILDREN WITH HEARING LOSS

Each child with impaired hearing is entitled to receive an education fitting his individual needs. These needs may be met by including the following special provisions in his program, as required:

1. Speech-reading instruction
2. Auditory training

<sup>25</sup> H. Best, *Deafness and the Deaf in the United States*, p. 70. New York: Macmillan Co., 1943.

<sup>26</sup> L. Hopkins, "Congenital Deafness and Other Defects Following German Measles in the Mother," *American Journal of Diseases of Children*, LXXII (October, 1946), 377-81.

<sup>27</sup> Lederer, *op. cit.*, pp. 126-27.

<sup>28</sup> L. Bothman and S. J. Crowe, Editors, *1947 Yearbook of Eye, Ear, Nose and Throat*, p. 411. Chicago: Year Book Publishers, 1947.

3. Speech education
4. Tutorial service in school subjects
5. Training in establishing the communicative process

#### Group A. Children with Slight Hearing Losses

Children whose losses range from 15 to 20 decibels in the better ear, those who have quite marked monaural loss, or children whose slight impairment can be alleviated by medical treatment within six months do not generally need special educational service. They must, however, be watched and rechecked periodically so that any tendency toward progressive deafness may be noted and treated.

Slightly hard-of-hearing children should be granted opportunity for favorable seating in the classroom. For example, the child with a hearing loss in one ear should be seated in such a way that the defective ear is turned toward the noisy side of the room if the room faces a busy thoroughfare. The good ear should face the side of the room from which speech emanates. These children should be allowed to move to the seat which suits their listening needs. This group of children makes up a very large portion of the estimated 5 per cent of school children who have hearing losses.

#### Group B. Children with Moderate Hearing Losses

Children with as little loss as 25 decibels in the speech range in the better ear and whose deficiency cannot be corrected by medical treatment may be introduced to speech reading (lip reading) as a means of facilitating the comprehension of oral communication. They should remain in the regular classroom for all instruction other than lip reading. If speech therapy is indicated, provision should be made for its inclusion in the child's program. These children can well be served by the itinerant speech correctionist who has been trained in hearing rehabilitation.

Children whose losses range from 35 decibels to 50 or 55 decibels in the speech range in the better ear should have the privilege of wearing hearing aids, if the hearing loss is the type that lends itself to improvement with an aid, and of learning to read lips.

Hard-of-hearing children as young as two or two and one-half years of age have been successfully introduced to amplified sound. The first experiences in amplification may be through the medium of the desk-type aid. Some four- or five-year-olds have profitably used individual hearing aids. One cannot say categorically at what age a child should begin to wear his own hearing aid since many factors such as intelligence, maturity, and degree of loss will influence the decision to furnish the child with an aid.

When a child appreciates and enjoys hearing, and when he can be

reasonably depended upon to care for an instrument, he should be supplied with this aid.

It is the general consensus that a large majority of potential aid-users can wear any of the modern vacuum-tube hearing aids profitably. However, there is a group among the hard-of-hearing for whom the selection of a particular aid is indicated. Hearing-aid selection service is offered in a number of clinics in colleges, universities, and schools, and in some chapters of the American Hearing Society.<sup>29</sup> These clinics are patterned after those operated by the armed forces during the war. At such a clinic an individual may try a variety of hearing aids approved by the American Medical Association<sup>30</sup> and may be helped to select one which best seems to suit his particular type of loss.

Hard-of-hearing children must have training in the use and care of their aids and in the interpretation of amplified sound. When the child has been taught to use his hearing aid together with his sight in the interpretation of speech, he will have acquired a tool which will be the mainstay of his educational rehabilitation.

Some children can naturally read lips better than others. Speech reading (or lip reading) is that skill which makes it possible for an individual to understand speech by watching a speaker's face, particularly the movements of his mouth. Speech-reading performance seems to be influenced by the visibility of the sounds making up the material to be read; the individual's familiarity with vocabulary and content; his ability to synthesize ideas; and a favorable attitude toward receiving speech.

Investigation of the problem of lip reading at the Clarke School for the Deaf<sup>31</sup> brought to light the facts that great differences exist in lip-reading performance between children of the same chronological age and that differences between the scores of consecutive age groups are small. Children who rank high in lip-reading performance retain their rank over periods of several years. Individual differences, therefore, cannot be due to differences in length of training. Utley<sup>32</sup> came to the conclusion that lip-reading ability is not highly correlated with and cannot be predicted from school achievement. A program of lip reading, therefore, must be

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<sup>29</sup> W. Fitch and L. Hedgecock, "Which Hearing Aid Shall I Buy?" *Hygeia*, XXVI (November, 1948), 816.

<sup>30</sup> List of approved aids may be secured by writing to the Council on Physical Therapy, American Medical Association, 535 N. Dearborn, Chicago, Illinois.

<sup>31</sup> *Studies in the Education of the Deaf*. Prepared by Psychological Division of Clarke School for the Deaf. Psychological Monographs, LII, No. 1. Washington: American Psychological Association, 1940.

<sup>32</sup> J. Utley, "Factors Involved in Teaching and Testing Lip-Reading Ability through the Use of Motion Pictures," *Volta Review*, LXVIII (1946), 657-59.

planned on the basis of children's natural abilities. In general, half-hour lessons twice a week for a year should give most children a good foundation in lip reading. Continuance will depend on the progress the child has made as well as his natural ability to read lips.

If the hard-of-hearing child needs speech training—and many hard-of-hearing children do—such service should be included in his program.

Most children in this group will be able to remain in their regular classrooms if they receive special instruction in lip reading, auditory training, and speech when such assistance is needed. This service may be rendered by itinerant teachers, or the child may be taken to a center where he can receive special help from a teacher trained in hearing and speech education. Certain classroom adjustments will also be necessary. Like the child with the slight hearing loss, the hard-of-hearing child should have the privilege of being seated near the sound source. Since the sound source is bound to shift in the modern classroom, the hard-of-hearing child should be allowed to change his seat to the most favorable position for him at any particular time. Besides this, the teacher, as well as the other children in the room, should be aware of the child's limitations in hearing and of his dependence on reading lips. They can help by facing the child while speaking and by standing behind the source of light rather than in front of it whenever possible. They should speak distinctly but not exaggeratedly, neither too fast nor too slowly.

As the degree of loss in the better ear approaches 50 or 55 decibels, if the loss has been of long standing and if the child has not had the privilege of using amplified sound most of his life as a hard-of-hearing person, adjustment to a regular class may be too difficult for him. A child who is a slow learner, though not necessarily mentally deficient, one who is educationally retarded, one who seems to have poor ability to read lips, or one who is not well adjusted socially may need the more individualized services of a special class.

Another group of children for whom the special class is indicated are those who suddenly become deaf through illness or accident considerably after the time when speech and language patterns have been established. The period of adjusting to living in a world of utter silence frequently becomes a stormy one. These children, suddenly deprived of hearing, need the guidance and understanding they can receive in the special class. They, of course, will need training in lip reading and training of what vestiges of hearing there are. The voices and the speech of these children frequently show deterioration unless special effort is made to help them retain adequate speech patterns. Though they may be considered physically deaf, their educational needs approximate those of children who are hard of hearing rather than of the deaf.

The special class should be located in a school in which a child can maintain contacts with his peers. At first the child may have to spend the greater part of the day in the special class where he learns to read lips, where he has the advantage of hearing amplified sound on a group hearing aid, and where he learns to use his own individual aid. The size of the class should be small enough to insure the individual attention he needs in helping him with his speech and with his own peculiar educational and personal problems. However, the hard-of-hearing child ought always to participate in the regular school program wherever his capabilities permit. As his confidence in himself grows, and as his educational achievements progress, he may share increasingly in the activities of the regular class with which he should remain identified. It may be possible for him to return eventually to the regular class for the greater part of the day and to come to the special class only for speech correction, lip reading, and auditory training.

The child should always be encouraged to participate fully in all school and extra-curriculum activities such as sports, assembly programs, scouting activities, and the like. He should be considered as much an integral part of the school community as any other child in attendance at the school.

During the intensive phase of special-class experience, an important function which the teacher of the hard-of-hearing child performs is to help the child integrate his new tools for receiving speech—namely, lip reading and the use of amplified sound—with all his school activities. Every lesson in social studies, language, science, or spelling becomes a lesson in hearing, in lip reading, and in speech. The child needs this type of integration and he needs individual attention to prepare him more rapidly to return to the regular classroom. An occasional lesson in auditory training or speech reading will not be nearly so effective as the concentrated program he receives from the teacher who is trained to meet his various needs. Assignments to special classes should be made only after careful consideration of each child as an individual. A re-evaluation of his needs must be made periodically so that the program will always be adjusted to him.

The education of hard-of-hearing children should be guided by the same principles as those for normal children. Beyond the elementary level, hard-of-hearing children may be capable of going through high school and even on to college. Should they prefer careers in industry, vocational schools can round out their preparation and assist in their vocational choices. On the whole, hard-of-hearing persons can engage in as wide a variety of occupations as normal persons. Their vocational training should be based largely upon their aptitudes and interests.

Loss of hearing may become a factor to be considered by the vocational counselor. For example, those who are sensitive to loud noises, as many hard-of-hearing persons are, may wisely be guided away from careers which involve working in a too noisy environment. On the other hand, many among these handicapped persons who are not sensitive to loud noises have the advantage over normal people when they work in noisy surroundings. These and other factors may help determine the choice of occupation.

The background of a teacher for hard-of-hearing children should include training in elementary education. He should understand children, have a well-adjusted personality, and be interested in handicapped children. His special training should include a thorough foundation in speech correction and in the problems and methods of hearing rehabilitation, including lip reading and auditory training. In addition, he should have an understanding of remedial techniques in reading and language. Itinerant teachers of children with slight hearing losses who receive all their education in the regular classroom should be well-trained speech correctionists who have had courses in hearing rehabilitation.

#### Group C. Children with Marked Hearing Losses

Children with marked hearing loss (55-60 to 70-75 decibel loss in speech range in the better ear) present a more complex educational problem than do hard-of-hearing children since they must be taught to communicate by specialized techniques designed to meet their needs. They have a truly great advantage over the profoundly deaf, however. Though "educationally deaf," they have some residual hearing that can be used in their education. The sense of hearing can become functional with amplification, though it can never be relied upon as the sole avenue through which speech and language are to be acquired. With the best quality of amplification available, these children will still experience difficulty in understanding speech because their discrimination may remain defective as the result of the type and the severity of the loss of hearing.

Even so, their residual hearing will help them enormously in receiving their education. Many of these children who started out as "educationally deaf" may eventually be classified as hard of hearing because of the speed with which they can acquire speech and language.

It is of particular importance that all children with marked or profound losses (Groups C and D) be discovered and diagnosed properly at an early age so that the methods of education which are of greatest value to them can begin at once. By the time a normal child is two or two and a half years old he has developed a sizable vocabulary and is learning to express himself orally. Unless a child with a marked hearing

loss can develop an understanding of the communicative process by utilizing what hearing he has and by learning to read lips before the age of three, he will be at a distinct disadvantage for the rest of his life.

Since most states do not make provisions for educating children below the age of three, parents must assume an important role in the preschool education of their deaf children. Increasingly since the turn of the century efforts have been made to help parents with the problems presented by their acoustically handicapped children. A great impetus was given to this movement by the establishment of the John Tracy Clinic<sup>33</sup> in Los Angeles in 1941. This clinic now offers a correspondence course to parents of deaf and hard-of-hearing children. Many state and private agencies have taken up the challenge and now offer courses for parents of young children in the hope that the important first years of the child's life will not be wasted. The Volta Bureau,<sup>34</sup> founded in 1887 by Alexander Graham Bell, also has materials of interest to parents of deaf children. The Volta Bureau furnishes information on deafness to anyone on request.

The educational needs of children with marked hearing losses generally are best met in special classes or in schools for the deaf. These children should receive their basic elementary education largely under the tutelage of teachers trained to teach the deaf. These teachers understand the processes of developing language concepts and of correlating these concepts with oral and written expression. Continual practice with the tools of communication is necessary to establish correct language and speech patterns.

It is entirely possible that children in this group who attend special classes in public schools and who progress rapidly in their acquisition of language and intelligible speech can participate in regular classroom activities to some extent. They might, for example, first join an art class with children of their own interests and abilities, or they might be a part of a physical-education class. Later they may add classes in arithmetic or spelling, and so forth. Just as the hard-of-hearing children participate in extra-curriculum activities, so should these children with marked hearing losses be given the same opportunities.

Only about one-fourth of all children in the United States with marked or profound hearing loss receive their education in special classes, most of them being enrolled in schools for the deaf. In the larger schools for the deaf, children with trainable residual hearing are frequently segregated into groups known as "acoustic" or "aural" classes. These classes are provided with powerful group hearing aids and the emphasis in their

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<sup>33</sup> John Tracy Clinic, 942 West Thirty-seventh Street, Los Angeles, California.

<sup>34</sup> The Volta Bureau, 1537 Thirty-fifth Street, N.W., Washington, D.C.

programs is placed on the integration of the senses of sight and hearing in the process of learning to communicate.

Their education beyond the junior high school level must be planned on the basis of their individual needs. The brighter children may want to continue on to high school or to college, while others may wish to enter vocational school and concentrate on preparation for careers in business or industry. There will always be need for adjusting the programs of these children, so the special-class teacher has an ever important role in guiding their education.

#### Group D. Children with Profound Hearing Losses

The education of the deaf must, in general, be carried on in special day or residential schools. Since the percentage of the school population having profound hearing losses is small, those falling in this group will be scattered in any community and must be assembled at one central point for special education. If a community has a large enough population, a central day school may be established. In areas where the population is not concentrated, it may be necessary for these children to attend a residential school. The larger the groups the more effective will be the program, for children with profound losses of hearing will need the continuous benefits of specialization. Unlike children with moderate or slight losses of hearing, they will not be able to adjust to the fast-moving activities of classes for the normally hearing. There are exceptions to this generalization, of course. Certain deaf children with unusual abilities and advantages may be able to fit into regular classes, but they are the exception and not the rule.

Of the 18,843 children enrolled in schools or classes for the deaf in 1949,<sup>35</sup> about 5,000 received their instruction in public day schools, of which there were thirty-three (with five or more teachers), or in public day classes or units, of which there were eighty-one (with one to four teachers). About 13,000 of these children were enrolled in the seventy public residential schools and twenty-five private or parochial residential schools which are so distributed that at least one such institution is found in every state except Delaware, Nevada, New Hampshire, and Wyoming.

The first aim in the education of the deaf is the establishment of a means of communication, but the question of what the basic means of communication is to be remains unsettled to this day.

One group of educators, the "oralists," believes that a deaf child must learn speech and lip reading so that he may take his place in a society whose chief medium of communication is the spoken word. They believe

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<sup>35</sup> *American Annals of the Deaf*, XCIV (January, 1949), 6-26.



that the deaf individual who has a sense of belonging to the society in which he lives rather than the feeling of isolation from it has a better chance of making adequate personal, social, and vocational adjustments.

A second group of educators believes that the "combined" method serves the needs of the deaf best. The "combined" method advocates that every effort be made to teach all young deaf children speech and lip reading but that, if after a reasonable time no progress in oral skills is made, instruction should be given mainly through the medium of finger spelling, together with some signs. In "combined" schools, most outside activities, religious instruction, and vocational training are carried on by the manual medium. The majority of the state residential schools for the deaf adhere to the "combined" philosophy, although more and more emphasis is being put on teaching deaf children to speak and to read lips.

The public day schools and a number of residential schools subscribe to and practice the "oral" method. They discourage the use of signs in order to assure the maximum opportunity for the deaf child to learn to speak and to read lips and to use effectively, in oral form, the language of the community in which he lives. All instruction and communication are carried on through lip reading, the use of residual hearing, reading, and writing.

To start deaf children on the rough educational road they will have to travel, it is necessary to find and diagnose these children early. Research studies point out the extreme retardation of deaf children and give warning that the years lost between babyhood and entrance into school can never be made up unless something is done about it early.

Because educators are aware of the importance of early education of deaf children, the age of admission to schools for the deaf has been lowered, many of them now admitting children as young as three years of age. Many schools also hold institutes or provide regular programs for parents of preschool deaf children where the mothers are oriented to the many problems that face their children and learn what role they can play in their educational and social growth.

The first six or seven years of the deaf child's school life are given over to the difficult task of developing facility in the use of language. The deaf child must have guidance in associating his concepts with the symbols used in language. His understanding of language has to be built up in a systematic fashion, often by a slow and laborious process involving a great deal of repetition and drill. Deaf children must also learn to coordinate speech with the language they are learning. Since most deaf children have a modicum of residual hearing, attempts are made to train this hearing. In many of the larger schools for the deaf those children with usable residual hearing are usually taught separately in "acoustic"

or "aural" classes in which the emphasis is placed on the integration of the senses of sight and hearing in the process of learning to communicate. Though the ability to interpret speech and language through the sense of hearing will always be fragmentary and incomplete for profoundly deaf children, they can learn to appreciate rhythm, to distinguish differences in pitch, and to have an appreciation of the gross sounds in their environment. The size of the class best suited to the needs of deaf children is seven or eight pupils, although the average size of classes in schools for the deaf is closer to nine or ten.

Since the deaf child has the tremendous handicap of having to learn language in an unnatural manner, it takes the average deaf child longer to achieve an elementary-school education than it does the normal child. The advent of nursery-school programs and the utilization of residual hearing is helping to reduce this retardation factor. Today many deaf children are finishing the elementary program at the age of fourteen or fifteen as contrasted with the average age of sixteen, seventeen, or eighteen, twenty years ago. An increasing number are seeking secondary education. A number of the public residential schools now offer full or partial high-school programs, and more and more of the elementary graduates of both the day and residential schools attend public high school. Those who attend high schools for hearing children will need good intelligence, a good foundation in language and reading, good lip-reading skill, and a well-adjusted personality. They will also need the special help and interest of their parents at home and their teachers and fellow pupils at school. A number of large public high schools provide special educational counselors for the acoustically handicapped to help them make the necessary adjustments.

Some of the deaf also attend colleges for the normally hearing.<sup>36</sup> The problems they meet at this level are, of course, merely an extension and an intensification of the problems on the secondary level. Most of the deaf who desire an education beyond high school attend Gallaudet College in Washington, D. C., which is supported by the federal government. This is the only college in the world maintained exclusively for the deaf.

The majority of the deaf move in the direction of vocational training and employment in the later years of the elementary-school program. All residential schools for the deaf offer vocational training or industrial arts. Day schools offer industrial arts courses and utilize the facilities of the vocational schools of the public school system for many of their pupils. In the day-school programs, guidance by vocational counselors

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<sup>36</sup> "Deaf Graduates of Schools and Colleges for Hearing Students," *Volta Review*, LI (January, 1949), 10-16.

may have to be supplemented by the services of a trained teacher of the deaf.

Deaf workers engage in a wide variety of occupations and have proved themselves dependable, reliable, and efficient workers. They can achieve capably in any field of employment open to the normally hearing where hearing is not a primary requirement. The U.S. Civil Service Commission has listed 1,260 types of employment for which normal hearing is not considered important.

The teacher of the deaf or of children with marked hearing losses should be a well-adjusted person and should have a good background in elementary education. He should know children and their needs and should be interested in handicapped children. He should have special training<sup>37</sup> which provides a thorough understanding of the problems of hearing rehabilitation: testing of hearing; educational diagnosis; lip reading and auditory training; speech development and correction; language development; reading techniques; and extensive practical experience with deaf children. This special training can be secured in a number of training centers in schools for the deaf and in various colleges and universities.

#### A LOOK TO THE FUTURE

Though a great deal of progress has been made in recent years in gathering information about the problems relating to hearing losses, scientific data pertaining to some phases of the problem of deafness are amazingly lacking. We know comparatively little about testing the hearing of very young children or the age at which an audiometric test can be validly administered. We know little of the value of admission of the young deaf child to nursery-school programs for hearing children. We know very little about what lip reading is and how the skill is acquired.

Significant progress in electronic amplification was made during World War II and, as a result, children with lowered hearing acuity have already profited from being able to use improved hearing aids. Though individual hearing aids are designed mainly for the adult who has lost his hearing, the individual aid must necessarily play a larger part in the education of children with deficient hearing than it has in the past. Such questions as whether there is a critical age at which a hearing aid is to be supplied to a child or what the actual value of a hearing aid is as a factor in educational achievement must still be answered.

Investigations relating to the use of amplified sound with babies and

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<sup>37</sup> E. Martens, *Opportunities for the Preparation of Teachers of Exceptional Children*. United States Office of Education Bulletin No. 17, 1937. Washington: Government Printing Office, 1937.

very young children would be helpful from the educator's point of view. The importance of early detection, early medical treatment, and early systematic education demands that more be known about getting meaningful sound to all children with deficient hearing.

The recent emphasis placed on enlisting parents of deaf and hard-of-hearing children as the child's first teachers has been the outgrowth of a felt need. More and more efforts are being made to train parents in the techniques of teaching their children at home in informal situations. Continuance and growth of preschool training programs for parents point the way to a fuller and richer education for deaf children.

Besides developments in auditory aids, a new electronic visual aid for teaching speech to nonhearers has been devised at the Bell Telephone Laboratories. A sound pattern is visualized on a screen, each sound having a particular conformation. For deaf individuals who learn to read and interpret "visible speech," telephone conversation is made possible. The question as to the efficacy of using "visible speech" in the teaching of very young children has not been answered, though experiments on using visible speech with children are now being conducted.

A severe shortage of teachers of the deaf was precipitated by World War II. However, with the recent establishment of a good many college and university centers for training teachers of the deaf and the resultant widespread publicity of the problem, this condition should soon be alleviated.

Person-to-person contact has been largely responsible for attracting individuals into the profession of teaching the deaf. Acquaintance with the deaf person in the family or social group or proximity to a school for the deaf influenced most of the young people who entered the field. The recruiting of suitable persons as teachers of children with hearing loss ought not to be left to chance. High-school vocational-guidance counselors are all too frequently unaware of the fact that there are deaf people in the world waiting to be taught. High-school guidance into teaching the deaf should be encouraged.

The actual training of these candidates must then be considered. The teacher of the deaf must be as expert in the teaching of language as is any teacher of a foreign language; moreover, he must be an expert in the developing of intelligible speech. The teacher's armamentarium of special techniques must be superimposed on a knowledge of elementary education and, above all, on a knowledge of children. To ask the candidate to become an expert in all these areas in the period of a four-year college course, or in a year beyond a liberal-arts degree, is asking a great deal of anyone. A program of in-service training would seem to point the way to getting better teachers of the deaf.

In the area of personality adjustment there is need of a great deal of investigation and of the standardization of psychological and achievement tests which can give us deeper insight into the problems of the deaf and the hard-of-hearing.

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## CHAPTER X

### TEACHING CHILDREN WITH SPEECH HANDICAPS

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#### INTRODUCTION

Speech defectives comprise the largest single group of handicapped school children. It is a significant fact that the degree to which they are handicapped depends upon the administrative policies, classroom procedures, and teacher personalities by which they are affected.

Children and adults, in school and out, do much more speaking than either reading or writing. Speech is the most used of all the language functions, and the most fateful, day in and day out, in the social and workaday relationships of people everywhere. What is done about speech, and especially speech disorders, in our schools is, therefore, of the utmost importance to the pupils as individuals and to the society which they will help to create as they become adult citizens.

#### TYPES OF SPEECH DEFECTS

##### Functional Articulatory Defects

The speech defect classified as articulatory is the most common type. The child who omits certain sounds, as in saying "pay" for "play," has an articulatory problem. So does the pupil who substitutes one sound for another, as in "fumb" for "thumb." And the youngster who distorts certain sounds, who whistles or mashes the s sounds or strikes some sounds so lightly that they are not distinct, also has difficulty in speech sound articulation. Misarticulations of sounds should not be confused with mispronunciations of words, reading disabilities, or grammatical deficiencies.

Difficulties or errors in the articulation of sounds have two chief causes. The more important cause is simply faulty learning. The other is organic defect, such as mouth deformities or faulty hearing. The vast majority of cases have no organic defects. They need training in paying attention to speech sounds, in recognizing and discriminating them by ear, and in producing them correctly.

Children with functional (nonorganic) articulatory defects make up 70 to 85 per cent of public school speech-correction cases. In about half the cases of this type, moreover, the *s* sound is defective, although other sounds, of course, are frequently misarticulated. The number of school children reported as having articulatory defects depends largely on the definitions used. At the age of six years the average child produces correctly about 90 per cent of the sounds; the normal child, therefore, misarticulates 10 per cent of his sounds and cannot reasonably or wisely be regarded, on that account, as a speech defective. Standards in speech, as in other things, should be no higher than the majority of children can readily achieve at any given age level. Practical speech-correction experience shows that 2 to 3 per cent of school children have serious articulatory defects, and another 2 to 3 per cent have less severe defects. In a school with an enrolment of 1,000 pupils, therefore, there are likely to be from 40 to 60 children who have functional articulatory disorders requiring speech correction, roughly half of whom will require individualized or intensive small-group instruction.<sup>1</sup>

Speech-correction principles will be discussed in later sections of this chapter.

### Stuttering

Stuttering affects six to ten out of every thousand school children. ("Stuttering" and "stammering" are, by current usage, synonymous.) It is a specific form of speech anxiety or fear. Outwardly it takes the main forms of undue hesitancy, speech blockage, and the repetition of words, phrases, or sounds. It involves tension and often, or even usually, some kind and degree of facial grimacing, eye-blinking, etc., with associated bodily movements. The child's fear of being unable to get started and to keep going fluently is the main feature of this particular speech problem.

Stuttering is not to be confused with (a) the normal nonfluency of childhood, or even adult, speech, (b) motor incapacity affecting speech as found in some cases of brain damage, or (c) neurotic speech blockage with sudden onset under emotional pressure in adult life. Stuttering usually begins before school age; the average age of onset is about three years. The normal nonfluency of childhood is not a speech defect. The average child between the ages of two and five years repeats sounds, words, or phrases 45 times per 1,000 spoken words in free-play situations.<sup>2</sup>

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<sup>1</sup> See references at end of chapter.

<sup>2</sup> Dorothy M. Davis, "The Relation of Repetitions in the Speech of Young Children to Certain Measures of Language Maturity and Situational Factors," *Journal of Speech Disorders*, IV (1939), 303-18; V (1940), 235-41, 242-46.

This is the average for normal children. It is not stuttering. Stuttering is mainly distinguished by tension and fear, not by easy, unself-conscious repetitions or hesitations. It is the stutrer's tendency to be apprehensive about and to struggle against the nonfluencies he does have—or thinks he will have—that is important. Normal speakers merely hesitate; stutters hesitate to hesitate.

There has been a relatively large amount of scientific research on stuttering. Over 150 physiological and biochemical studies have been reviewed and evaluated by Hill.<sup>3</sup> Several of the more recent and crucial investigations have been discussed by Johnson.<sup>4</sup> The most defensible general conclusion to be drawn from this research, to date, would seem to be that stuttering is a specific form of learned anxiety-motivated behavior. What appears to happen in the typical case is that the child's parents (in occasional instances, the child's teachers) become concerned about his *normal* hesitations and repetitions. They show this concern in facial expression, postural tensions, tone of voice, or by actually calling the nonfluencies to the child's attention, asking him to "stop and start over," to "take his time," to "stop and think out what he wants to say," or even, in rare cases, to "stop stuttering like that!" Some children can withstand a great deal of such disapproval, parental anxiety, and disturbing "helpfulness." Others cannot. In the representative case the child begins, after a few hours, days, weeks, or months, to speak less and to do the speaking he does more hesitantly and less confidently. With continued—usually intensified—parental concern, the child begins to try harder to do better to please his parents. Slight effort and tension appear, blocking his speech all the more. Parental anxiety increases accordingly. The child tries harder to do still better, loses more confidence in the bargain, exhibits more blocking tensions, becomes more hesitant and discouraged; the parents worry all the more—and so the vicious circle expands.

This, of course, is the sketchy outline of a story that comes alive in actual cases with an abundance of detail and complications. For example, it involves a set of circumstances that seems to occur about four or five times more frequently, in our particular culture, for boys than for girls.<sup>5</sup>

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<sup>3</sup> Harris Hill, "Stuttering: I. A Critical Review and Evaluation of Biochemical Investigations," *Journal of Speech Disorders*, IX (1944), 245-61; "Stuttering: II. A Review and Integration of Physiological Data," *Journal of Speech Disorders*, IX (1944), 289-324.

<sup>4</sup> W. Johnson, S. Brown, J. Curtis, C. Edney, and J. Keaster, *Speech-handicapped School Children*, pp. 179-257. New York: Harper & Bros., 1948.

<sup>5</sup> Hildred Schuell, "Sex Differences in Relation to Stuttering," *Journal of Speech Disorders*, XI (1946) 277-98; XII (1947), 23-38. See also, by the same author.



There is some little evidence, as so far accumulated, that the conditions which are conducive to stuttering are found somewhat more often in homes in the higher socioeconomic levels, where standards tend to be higher and the competition for social status keener than in homes "on the other side of the tracks." There is some tendency for stuttering to run in families, but so far as is known scientifically it is not inherited. There are two reasons why characteristics run in families: biological heredity and family tradition. Eating with a fork, or with chopsticks, runs in families. So does the habit of voting the Republican ticket or of attending the Episcopal church or the Buddhist temple. And so do certain speech standards, attitudes toward the imperfections of childhood speech, and anxieties about whether the family offspring will stutter. Once stuttering has "invaded" a family, the fear of its recurrence haunts in some measure the succeeding generations of parents. So it comes about that in some families the psychological and environmental conditions that make for stuttering are more likely to arise and take their toll.

There used to be a popular theory, not yet put aside in all quarters, that forcing left-handed children to be right-handed would make them stutter. Recent research has discredited the theory.<sup>6</sup> There is this to be said, however: while changing a child from left- to right-handedness will hardly, in and of itself, cause the child to stutter, the sort of parent or teacher who would do such a thing might very well cause the youngster to stutter or to develop some other disturbance. So far from being forced to use the right hand, left-handed children should be given the special training they need in order to become gracefully left-handed. Right-handed writing instruction, for example, is not suitable for them.<sup>7</sup> The general principle involved here would appear to be that children should be permitted to be left-handed if they want to be, just as they should be allowed any and all other reasonable freedoms to develop their own natural inclinations.

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*Differences Which Matter: A Study of Boys and Girls.* Austin, Texas: Delta Kappa Gamma Society, National Office, 1947.

<sup>6</sup> Harry Heltman, "Contradictory Evidence in Handedness and Stuttering," *Journal of Speech Disorders*, VIII (1940), 323-35; W. Johnson *et al.*, "A Study of the Onset and Early Development of Stuttering," *Journal of Speech Disorders*, VIII (1942), 251-57; W. Johnson and A. King, "An Angle-Board and Hand-Usage Study of Stutterers and Nonstutterers," *Journal of Experimental Psychology*, XXXI (1942), 293-311; E. J. Spadino, *Writing and Laterality Characteristics of Stuttering Children* (Teachers College Contributions to Education No. 837. New York: Teachers College, Columbia University, 1941).

<sup>7</sup> On the basis of extensive research, Dr. Warren Gardner has produced a handwriting manual for left-handed children, or adults, that has proved to be very effective. Warren H. Gardner, *Left-handed Writing: Instructional Manual*. Danville, Illinois: Interstate Publishing Co., 1945.

In general, then, stuttering is caused mainly, in the great majority of cases, by parental anxieties concerning the normal imperfections of childhood speech—and by the elaborate train of consequences which such anxieties tend to set in motion. Once started, stuttering can be aggravated by any and all factors that tend to make for maladjustment and lowered efficiency. The vast amount of research so far done has failed to demonstrate clearly any organic cause for stuttering.

### Voice Problems

According to Curtis, "Estimates vary, but probably from 1 to 2 per cent of school children present significant voice problems."<sup>8</sup>

The human voice can be well described in terms of its (a) pitch, (b) loudness, and (c) quality. Voice disorders, then, can be correspondingly classified.

Disorders of pitch are those involving pitch levels that are too high, too low, or monotonous. There seems to be a "natural pitch level" for any individual, and a child or adult who habitually uses a tonal level that is too high or too low for his vocal organs not only impairs the effectiveness of his voice but may also damage his tone-producing mechanism.

A voice that is defective with respect to loudness may be too loud, too soft, or monotonous. Disorders of loudness are seen chiefly in overly shy children who do not "speak up" and in children who feel a strong need for attention and recognition which they sometimes attempt to obtain by means of loud, arresting speech. Except in rare cases of chronic laryngitis and other conditions of medical concern, loudness disorders are chiefly psychological in nature.

Quality disorders can for most practical purposes be grouped under the following four terms: nasality, breathiness, hoarseness, and harshness. In their extreme forms these vocal qualities are easily recognized. An important cause of nasality in school children without organic defect is the habit of speaking with narrow mouth openings and relatively inactive jaws and lips. To put it almost too simply, if the sound can't get out through the mouth it will go out through the nose. A breathy voice quality results from an excessive flow of air between the vocal cords during the production of vocal tones. This can be a symptom of stage-fright, or it may be due to faulty habits of tone production. Hoarseness arises mainly from inflammation of the larynx and vocal cords due, as a rule, to the common cold, laryngitis, or vocal abuse, such as excessive cheering

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<sup>8</sup> J. Curtis, in Johnson *et al.*, *op. cit.*, chap. iv. The full chapter, pp. 146-78, is devoted to a comprehensive discussion of voice disorders. See also Grant Fairbanks, *Voice and Articulation Drillbook* (New York: Harper & Bros., 1940), and *Practical Voice Practice* (New York: Harper & Bros., 1944).

at games or speaking habitually with an unsuitable pitch level, especially one that is too low. "Harsh voice is generally considered to be associated with excessive strain and effort in producing voice."<sup>9</sup>

Teachers are familiar, of course, with the phenomenon of adolescent voice change occasioned by relatively rapid growth of the larynx, or voice box. This is taken in stride by most youngsters, but good teachers are always sensitive to the possibility of serious emotional disturbance in this connection for certain children.

Although serious voice problems are not common among school children, the problems that do occur are to be given unusually careful attention. Immediate referral to a medical practitioner, preferably an ear, nose, and throat specialist, is to be recommended in any case of hoarseness. Continued speaking without medical attention may have grave consequences.

### Organic Speech Disorders

Speech defects associated with cleft palate and cerebral palsy are the chief ones to be considered under this heading.<sup>10</sup>

Approximately one child out of every 1,800 is born with a harelip or a cleft palate, or both. These anatomical defects occur as a result of a failure of fusion, during embryonic life, of the right and left portions of the tissues making up the upper lip and of the roof of the mouth and the soft palate. In cases of cleft palate, air passes freely between the oral and nasal cavities. Speech tends, therefore, to be nasalized. Moreover, difficulty is experienced in building up breath pressure for the stop-plosive sounds (*p, b, t, d, k, g*), so that some degree of "nasal snort" frequently results from the effort to produce these sounds. Other sounds, too, may be affected.

Harelip is commonly repaired by surgery relatively soon after birth. Surgery is commonly used also to repair clefts of the hard and soft palates. When surgery is impractical or unsuccessful, obturators, roughly resembling "false plates" are commonly used to shut off the nasal from the oral passage. In any event, it is to be heavily emphasized that neither surgery nor an obturator will be sufficient, except in very rare cases, to eliminate the speech defect, for the simple reason that old neuromuscular adjustment habits will persist. Speech correction is necessary in practically every case. Moreover, the social handicap and the consequent tendency to develop personality maladjustment are to be given thorough attention in cleft-palate children.

<sup>9</sup> J. Curtis, *op. cit.*, pp. 154-55.

<sup>10</sup> See S. F. Brown in Johnson *et al.*, *op. cit.*, chap. vii, for an extended discussion of organic speech defects. See also Robert West, L. Kennedy, and A. Carr, *The Rehabilitation of Speech*, chaps. viii and xxiv. New York: Harper & Bros., 1947 (revised).

Cerebral palsy is more popularly—but misleadingly—known as spastic paralysis. There are several types of cerebral palsy, three of which are worthy of special mention here. All are due to damage to certain brain areas. The *spastic* type is characterized by a more or less constant state of excessive tension in the affected muscles. The *athetotic* type is distinguished mainly by exaggerated tremors or recurring movements, uneven and essentially involuntary, of the muscles involved. The *ataxic* variety involves mainly a disturbance in muscular co-ordination and bodily balance or equilibrium. Regardless of type, the extent of bodily involvement varies from restricted and slight to extensive and severe. In about 75 per cent of cases the speech muscles are affected. Approximately 75 per cent of cerebral-palsied children are educable so far as intelligence and physical fitness are concerned. Diseases, and possibly dietary deficiencies, of the mother during pregnancy, birth injuries, and certain diseases of infancy appear to be among the causes of cerebral palsy, although there is much research yet to be done in this connection. The incidence of cerebral palsy is about the same as that of infantile paralysis or "polio." There are about 400,000 cases in the United States. They constitute an especially acute educational problem, and one that has been woefully neglected.<sup>11</sup>

In general, the speech of cerebral-palsied children is labored, slow, jerky, and indistinct. The voice tends to be monotonous or uncontrolled. The breathing muscles are frequently affected and this complicates the speech and voice disturbances. The problem is gravely complicated as a rule by the social and educational adjustment difficulties experienced by children with cerebral palsy.

### Speech Problems Associated with Impaired Hearing

Speech defects are frequently associated with impaired hearing. The degree to which these defects are associated in given cases depends on the extent and type of hearing loss, the age at which the hearing impairment occurred, and other factors such as intelligence, general care and training, speech stimulation received in the home, etc.<sup>12</sup> These speech defects consist mainly of distortions of articulation and voice. We learn speech chiefly by ear, as it were, and the hard-of-hearing child is handicapped in this fundamental respect. He imitates what he hears, and what he

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<sup>11</sup> The National Society for Crippled Children and Adults, Inc., 11 South La Salle Street, Chicago, Illinois, publishes a magazine, *The Crippled Child*, that contains a wealth of up-to-date information of value to educators. The society also maintains a varied supply of authoritative and practical bulletins and books on cerebral palsy and other problems of handicapped children.

<sup>12</sup> Speech defects associated with impaired hearing are treated by J. Keaster, in Johnson *et al.*, *op. cit.*, chap. viii, and by West, Kennedy, and Carr, *op. cit.*, chap. x.

hears is not the speech that is heard by normally hearing children. Moreover, he cannot, in most instances, hear his own speech and voice sufficiently well to know whether he is producing sounds or vocal inflections normally.

Approximately 3 out of every 100 school children have educationally significant hearing losses, and another 5 per cent have impairments that call for medical attention and that may in some cases affect speech. (About 1 per cent of school children require the services of a speech correctionist by virtue of a hearing loss.) A large proportion of childhood hearing losses result from upper respiratory infections associated with the common cold, influenza, and other common diseases. Effects are often permanent but early medical attention can, in many cases, lessen the threat of lasting damage and not infrequently results in restoration of normal hearing.<sup>13</sup>

Speech correction, training in listening that makes for most efficient use of available hearing, instruction in the use of hearing aids, lip reading, and intensified instruction in reading and writing are common essentials in any program of education adequate for the 3 per cent or more of school children with severe hearing problems.

### Retarded Speech Development

In general, about 5 out of every 1,000 children in the early grades give evidence of retarded speech development, as gauged by reasonable and practical standards. The aspects of speech in which delayed development may be noted are: (a) amount of vocal play during infancy, (b) age of saying first words and first sentences, (c) articulatory correctness and general intelligibility, (d) average length of speech responses, (e) amount of talking, and (f) vocabulary, both use and comprehension. Extensive studies of speech sound development, relevant measures, and norms, for the period from birth to 30 months of age, have been developed by Irwin and his associates.<sup>14</sup>

The more common causes of delayed speech development are (a) men-

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<sup>13</sup> C. D. Osborn, "Medical Follow-up of Hearing Tests," *Journal of Speech Disorders*, X (1945), 261-73.

<sup>14</sup> Orvis C. Irwin, "Infant Speech: Variability and the Problem of Diagnosis," *Journal of Speech Disorders*, XII (1947), 287-89.

Orvis C. Irwin and Han Piao Chen, "Speech Sound Elements during the First Year of Life: A Review of the Literature," *Journal of Speech Disorders*, VIII (1943), 109-21.

For data concerning articulatory correctness for ages two to six years, see Beth L. Wellman, Ida M. Case, Ida G. Mengert, and Dorothy Bradbury, "Speech Sounds of Young Children." University of Iowa Studies in Child Welfare, Volume V, No. 2, 1931.

tal subnormality, (b) illness or physical disability, especially during crucial periods of speech development, (c) lack of sufficient speech stimulation, as in homes where there is little or no vocal play with the baby or where the adults are relatively quiet, (d) oversolicitous parents who anticipate the baby's wishes and wait upon him so zealously that he simply experiences no urgent need for speech, (e) overly strict parents who punish the child for falling short of speech standards that are beyond the youngster's stage of development, and (f) intense shock, fright, or shame. Retarded speech has been discussed from the point of view of the speech-correction specialist by Van Riper<sup>15</sup> and from the point of view of the classroom teacher by Brown.<sup>16</sup> An article by Ruth Irwin<sup>17</sup> describes in practical detail the procedures used in working effectively with a case of retarded speech development.

### PUBLIC SCHOOL SPEECH CORRECTION

#### General Considerations

There is one rule that should be consistently and strictly followed in dealing with speech disorders in the public schools: A speech survey should never be made unless it is to be followed immediately, or nearly so, by remedial work.

The all-too-common practice of occasionally bringing outside specialists into a school system, instead of establishing a speech-correction program, and having these specialists conduct speech surveys or one-day clinics that are not adequately followed up is to be thoroughly deplored. And the practice of introducing a speech-correction program by spending the first semester, or even the first year, surveying the entire enrolment before starting remedial work is also to be strongly disapproved. The disadvantages and potential harmfulness of such practices, once examined, are obvious:

a) Children are singled out as defective, and even though no official announcements are made, the children themselves, their schoolmates, their families and neighbors become vaguely aware of what they feel to be an unsavory and disturbing labeling. Then nothing constructive is done. They simply wait and worry. The simple fact is that branding a child as defective and then ignoring or neglecting him intensifies his problem, both for him and for his family.

b) If a survey is done one semester, or one year, and remedial work is

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<sup>15</sup> C. Van Riper, *Speech Correction: Principles and Methods*. New York: Prentice-Hall, Inc., 1947 (revised).

<sup>16</sup> S. F. Brown, in Johnson *et al.*, *op. cit.*, chap. vi.

<sup>17</sup> Ruth Irwin, "Speech Comes to a Five-year-old Boy," *Journal of Speech Disorders*, XI (1946), 197-203.

not started until the next year, or semester, some children will have graduated or transferred to other school districts, or to other buildings within the same system, and some new pupils will have come into the system. Moreover, some of those found to have defects will have improved, possibly enough to have overcome the defects, and others may have developed more complicated or severe problems in the meantime. In any event, the children spotted in the survey who still need help will have had a year of uneasiness and worse than fruitless waiting. In many situations the speech correctionist who did the survey will have resigned, and either a new teacher will have to try to make rhyme and reason out of such paper records as remain of the survey or there will be no speech correctionist at all and the time and money will have been wasted, to say nothing of the train of complete frustration and general disappointment on the part of everyone concerned.

c) A one-day clinic, to which selected pupils are referred with their parents, and in which examinations are made and recommendations given, raises unrealistic hopes and prepares the way for later disappointment, or worse, unless adequate provision is made for supervision, re-checking, and general follow-up. If there is an on-going speech-correction program in a school system, considerable benefits are to be gained from having visiting consultants spend brief periods of time in the system for specific purposes that arise out of the school's actual experience with the program. But where such correction program is lacking, the services of the consultants may well be misspent.

Regardless of the survey methods used, the examination and diagnosis should be followed as promptly as possible by the beginning of remedial work. This means, in practice, that not only each building but even each grade or classroom should be served as a unit. Having selected the children who need speech correction in the first grade at Longfellow School, the speech correction they need should be planned and actually started before a survey is made of the second grade. And this means, moreover, that it will usually be clearly impossible to introduce a speech-correction program into a sizable school system in such a way as to serve all the grades in all the buildings equally, right from the start. The Minnesota state law provides that a speech-correction teacher may not carry a case load in excess of 75 speech-defective pupils; under no circumstances is it wise for a speech correctionist to work individually and in small groups with more than 100 cases. The inauguration and development of a speech-correction program must be planned accordingly.

If it is desired to have speech correction throughout a school system, enough special teachers must be employed to service the entire enrolment. There should be one speech correctionist to approximately every 4,000

pupils. Estimating *very conservatively* that only 5 per cent of the pupils will be found to have significant speech problems, there will be 200 children needing speech correction among every 4,000 pupils. Some of them, possibly half, can be handled by their regular classroom teachers, with consultation and supervision by the speech correctionist. The rate of improvement and dismissal will then tend to keep the load of individualized and small-group cases in an enrolment of 4,000 down to a number—75 to 100—that one speech correctionist can handle efficiently.

Having got the program under way during one school year, the speech correctionist will not need to make a complete survey the following year. He will need to recheck the pupils worked with the previous year and test all new pupils. He will have corrected and dismissed enough of the previous cases to be able to take care of the new cases in about another 1,000 enrolment.

The foregoing discussion implies that it will usually be necessary to make a rational selection of the pupils to be included in a new speech-correction program, since it will by no means always be possible to include the entire enrolment. A common policy is that of restricting the program to the lower grades, perhaps the first three and the kindergarten, extending it upward grade by grade as the program is developed. From the point of view of the public served by the school system, this ordinarily makes more sense than limiting the program to certain buildings or to certain types of cases.

The foregoing discussion also implies that the most desirable procedure for locating speech-defective children is that of having the speech correctionist himself check every pupil. The procedure should be carried out, however, with active co-operation by the classroom teachers. They should submit the names of all children in their classrooms whom they regard as speech-handicapped—but these children should be checked by the speech correctionist. Depending entirely on referrals by classroom teachers is decidedly limited in its effectiveness, but dispensing completely with such referrals has the disadvantage of decreasing the interest and participation of the classroom teachers in the speech-correction program.

The crucial consideration in setting up a speech-correction program has to do with the selection of properly qualified personnel. The professional association in this field which has for many years provided national leadership in defining standards of training and practice is the American Speech and Hearing Association (formerly the American Speech Correction Association). Its membership regulations constitute a tangible and experience-tested definition of a speech correctionist.<sup>18</sup> The

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<sup>18</sup> The membership regulations may be obtained by addressing Professor George A. Kapp, Speech Clinic, Wayne University, Detroit, Michigan, the present (1950)



various state certification requirements in the field of speech correction, as of 1946, are summarized in an article by Carrell.<sup>19</sup> The most advanced requirements are those of the Ohio State Department of Public Instruction.<sup>20</sup>

Nothing said above is meant to imply that if specialists cannot be found nothing at all is to be done for speech-handicapped children. It is not possible to avoid doing something for or to them, and the only realistic question has to do with what can or should be done under the circumstances that actually prevail. In the absence of a full-scale speech-correction program, a great deal can and should be done by the regular school staff for the pupils who have speech problems. This point has been developed in textbook elaboration by Backus<sup>21</sup> and by Johnson *et al.*,<sup>22</sup> and many of its technical aspects have been discussed by Ainsworth.<sup>23</sup>

The most substantial single thing that can be done for speech-handicapped school children, in the absence of special teachers or a speech-correction program, is to insure so far as possible that *all members of the school staff have at least an elementary knowledge of speech disorders, a practical appreciation of speech-correction methods, and an understanding of the kinds of schools, classrooms, and teachers that are good, or bad, for children with speech defects.*

Every classroom teacher teaches speech. . . . Above all, from the speech-correction point of view, she creates an atmosphere, whether or not she means to do so, in which the child with a speech defect either is demoralized or is helped not only to improve his speech but also to live gracefully with his defect so long as it persists and to grow as a person in spite of it.<sup>24</sup>

In Iowa and a few other states, elementary teachers in training are required to take an introductory course in speech correction. It would seem possible to offer such a course in every teacher-training college, and if this were done it would go farther than any other single measure to remedy the serious deficiencies of our public education program with respect to the most urgent needs of America's speech-handicapped school children.

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Secretary-Treasurer of the American Speech and Hearing Association. A permanent address is The Speech Correction Fund, 11 South La Salle St., Chicago, Illinois.

<sup>19</sup> James A. Carrell, "State Certification of Speech Correctionists," *Journal of Speech Disorders*, XI (1946), 91-95.

<sup>20</sup> Severina E. Nelson, "Training and Certification of Speech Correctionists," *Journal of Speech Disorders*, XI (1946), 205-16.

<sup>21</sup> Ollie Backus, *Speech in Education*. New York: Longmans, Green, & Co. 1943.

<sup>22</sup> *Op cit.*

<sup>23</sup> Stanley Ainsworth, *Speech Correction Methods*. New York: Prentice-Hall, Inc., 1948.

<sup>24</sup> W. Johnson, *et al.*, *op cit.*, pp. 1-2.

The schools themselves can, in many instances, provide in-service training courses in speech correction for the classroom teachers. Certainly, such in-service training should be a basic part of any full-scale speech-correction program; the special speech-correction teacher should, as a matter of course, offer introductory instruction, adapted to the local working situation, concerning speech disorders and the handling of them in the classroom. Where there is no specialized teacher, it might prove possible in a great many situations to bring in qualified speech correctionists from near-by colleges or clinics to give in-service training courses.

In any school system it can be made a matter of administrative routine to refer the parents of all speech-handicapped children to such clinics as may be within reasonable distance. The secretary-treasurer of the American Speech and Hearing Association is prepared to provide on request the names and addresses of all the Association members within a given city, state, or area.<sup>25</sup>

### Basic Principles

The preventive and remedial approach to speech disorders reduces in the main to two aspects: (a) training, or retraining, of speech, as such, and (b) providing conditions that affect speech favorably.

Most speech defects begin before school age. What there is to say, therefore, about the *prevention* of speech disorders in the public schools can be summarized essentially as follows:

1. Voice problems are to be prevented, so far as they can be, through (a) discouraging vocal abuse, chiefly in game-cheering, (b) a good basic school-health program with special attention to upper respiratory infections, and nasal obstructions, especially adenoids, (c) an enlightened and sympathetic attitude toward children who are going through the adolescent "voice change," and (d) constructive attention to the childhood maladjustments that make for the feelings of fear, insecurity, and shyness which are commonly reflected in weak and inexpressive voices.

2. The prevention of speech and voice problems associated with hearing loss is best insured by preventing or arresting the hearing loss itself. Hearing tests are becoming routine in a rapidly increasing proportion of our schools. The Committee on the Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology has drawn up recommendations concerning public school hearing conservation, including audiometric testing.<sup>26</sup> The Committee favors tests of all school children

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<sup>25</sup> See footnote 18.

<sup>26</sup> These recommendations have been summarized by the Committee chairman, Dean M. Lierle, in "The Otologists' Program for Conservation of Hearing," *Journal of Speech Disorders*, X (1945), 111-16.

The subject of public school hearing conservation has been covered in detail by

at least once every three years, together with the testing of all new enrollees in any given school at the beginning of each term. The Committee further recommends that only the modern individual or group audiometers be used. Emphasis is placed on the importance of a comprehensive hearing-conservation program rather than a more narrow conception that includes hearing testing only. The value of early medical attention in cases of hearing loss, and the serious risks involved in neglect, are heavily stressed.<sup>27</sup> In cases of irreparable hearing loss, intensive speech training may serve to maintain articulatory correctness and voice quality that would otherwise deteriorate in time. Lip-reading instruction should be started as early as possible.

3. In the great majority of cases, stuttering begins before the child enters school. In some cases, with later onset, however, classroom policies and practices are definitely suspect. Preventive measures, so far as stuttering is concerned, lie largely in a generally democratic, friendly, and rewarding school atmosphere, created by well-adjusted teachers, acting in accordance with school policies formulated by administrators who insist upon a wholesome respect for the personal worth and dignity of each individual child. The sorts of schools and teachers that promote the personal adjustment, happiness, and efficiency of the general run of so-called normal children are also the sorts of schools and teachers that are most likely not to produce or aggravate stuttering.

There is one specific point to be made in this connection, and it should be heavily underlined. *No classroom teacher or school administrator should ever diagnose any child as a stutterer.* If the child's family, neighbors, other teachers, and associates do not regard him as a stutterer, there would be no useful point, and there would be extremely grave danger, in labeling him as a stutterer. The chief cause of stuttering, as has been explained, lies in the perfectionistic and emotionalized evaluation of parents and teachers of the *normal* nonfluency so prominent in children's speech. This produces self-consciousness that tends to lead to the anxiety tensions characteristic of stuttering. The most important specific preventive measure is simply that of accepting, without derogatory or disturbing evaluations, the normally nonfluent speech of children.

In addition to these considerations regarding prevention, there are three *remedial* principles to be emphasized:

*Speaking Should Be Fun.* Fifty years of increasingly refined research on

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Lorraine Anson Dahl in a recent book, *Public School Audiometry: Principles and Methods*. Danville, Illinois: Interstate Publishers, 1949.

For a comprehensive discussion by leading present-day authorities, see Hallowell Davis, Editor, *Hearing and Deafness: A Guide for Laymen*. New York: Murray Hill Books, 1947.

<sup>27</sup> C. D. Osborn, *op. cit.*

the psychology of learning has established in the main one fundamental principle: The amount of learning is proportional to the amount of *rewarded* practice. A child will learn to speak better, to correct a defect, just about to the extent that he is rewarded for trying, and the extent to which he is rewarded for trying is to be gauged chiefly by the degree to which he feels that speaking is fun.

One of the most tragic by-products of our nation's classrooms is the all-but-universal handicap of stage fright to be found among the graduates of our schools. In a study of approximately 800 university Freshmen and Sophomores, Greenleaf<sup>28</sup> found that all but 10 per cent—nine out of ten—claimed some degree of stage fright or, as Greenleaf more aptly terms it, speech fright. One out of ten rated himself as suffering from a *severe* degree of speech fright. Case studies of some of the more serious cases indicated more or less clearly that classroom experiences were among the important causes. The common practice among teachers of criticizing, rather than approving, the speech performances of students was shown to be especially pernicious.

When this critical attitude is applied to the performances of pupils with speech defects, the results are almost uniformly demoralizing. To paraphrase a line in one of the songs from the musical comedy, *Okla-homa*, the teacher and the pupil should be friends.

The teacher of English or speech, or of anything else, who feels that there are certain standards of speech that are to be upheld at all costs will inevitably have an unfortunate effect on children whose speech is defective. Under such a teacher they will slink about in the foreboding shadows of overt and implied disapproval, with ever deepening feelings of discouragement and insecurity. The teacher who would provide a situation in which speech correction is possible, in which a speech-defective child would feel motivated to try to improve, must accept the child as he is, speech defect and all. If he is to improve his speech, he must enjoy speaking—find it rewarding—and speech is never enjoyable when it is disapproved.

*Speaking Should Be Encouraged.* The basic condition for learning, as we have noted, is rewarded *practice*. The first prerequisite for the improvement of speech is speaking. The more the speech-defective child speaks, the better. It goes without saying, however, that such a child should never be *forced* to speak. That would be a clear violation of the principle of reward—coerced speaking would practically never be enjoyable. Rather, the pupil with defective speech should be *encouraged* to speak. He should be emotionally prepared to participate in the speech

<sup>28</sup> Floyd Greenleaf, "An Exploratory Study of Social Speech Fright." Unpublished Master's thesis, State University of Iowa, June, 1947.

activities of the classroom. Such participation should be made attractive to him. The teacher should find at least a little time to talk to the youngster about his speech difficulty, to convey the *feeling* that it is a problem to be faced up to and worked on, and to arouse an interest in achieving the satisfactions to be gained from attacking the problem objectively.

Obviously, the teacher who is informed at least to an elementary degree about children's speech problems will be the better prepared for motivating any speech-handicapped child to undertake a program of improvement. Any such program will be effective, if it can be, to the extent that it involves practice. This is hardly the place to present the fine details of speech-correction methods; it is sufficient to say that the more the teacher knows about these methods, the more helpful he can be to his pupils. And the advice or instruction the teacher gives, assuming its soundness, will make more beneficial to the child the speaking that he may do. The complex motor, psychological, and social skill that we call speech depends for its development, as do other skills, on *rewarded practice*. And the more the practice is directed toward specific goals essential to the correction of the particular speech difficulties of any given child, the more rewarding it will be, and the more effective.

*Conditions Affecting Speech Adversely Should Be Minimized.* The conditions in question are mainly those which frustrate speech, or make it an ordeal and a source of disappointment. The undesirable effects of speech disorders are minimized in a highly permissive situation which allows for the relatively free expression of feelings and opinions.<sup>29</sup> The key to the creation of such a situation in the classroom lies largely in maintaining as much informality and "classroom democracy" as are consistent with efficient teaching methods.

The teacher who assumes anything more than a casual degree of responsibility for doing something about the speech difficulties of a specific child will go beyond the walls of his classroom in an attempt to bring about a favorable set of circumstances for the child. He will talk with the youngster's parents, helping them to understand the problem and enlisting their co-operation. He will see to it that needed medical or dental care is obtained. If it is advisable, he will do what he can to get the child to a speech clinic for examination and advice or for a period of instruction in a summer program. He will in some cases enlist the services of child welfare agencies, recreation centers, Boy Scout leaders, clergymen, and

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<sup>29</sup> For a systematic presentation of the permissive or nondirective approach to adjustment problems see Carl Rogers, *Counseling and Psychotherapy*. Boston: Houghton Mifflin Co., 1942. The implications of this approach so far as educational policies and practices are concerned are obvious.

other persons or agencies prepared to render a needed type of assistance. Finally, it goes without saying that he will call upon the school nurse, psychologist, music teacher, dramatics coach, and other staff members, including the child's other teachers, for information or help. Speech correction is in large measure a teamwork proposition.

In general, the conditions favorable to speech improvement in a given case include (a) sufficient information to make possible on the part of the child, his teachers, and parents a clear understanding of the speech problem and of possible means of dealing with it; (b) encouragement and reward for the speaking done by the child and for the work he does in trying to achieve improvement; (c) elimination of any correctible organic conditions, or compensations for them, such as hearing aids, that place a limit on the possibilities of speech improvement; and (d) social relationships, recreational activities, and personal adjustments conducive to satisfying speech and positive self-evaluations. In some measure these can be provided in most cases by alert teachers and school administrators.

The attempt to present a detailed description of speech-correction techniques, in handbook fashion, in a general discussion of this kind would obviously be inappropriate and impractical. The interested reader may best be referred to the list of references at the end of the chapter.

#### CONCLUDING CONSIDERATIONS

In this chapter we have discussed the various types of speech defects to be found among school children, the fundamental problems involved in dealing adequately with speech-handicapped school children, and the basic principles of public school speech correction.

The more fundamental considerations are, first, that speech-defective children comprise probably the largest single group of handicapped youngsters in our schools. Second, for the most part they are normally educable and potentially employable aside from their speech defects. Third, in view of the substantial progress made in speech correction in recent years, the great majority of speech-handicapped children can be corrected or materially benefited. Fourth, much of the special attention and help they need can be given by the classroom teacher through judicious adjustment of teaching policies and methods, together with a little special instruction and personal attention that is not excessively time-consuming and can be given by any teacher who has had an elementary introduction to speech correction. Speech-correction courses in teachers' colleges and in-service training programs are of basic importance in this connection. This is to be stressed all the more in view of the fact that even in a school system where there is a full-scale speech-correction program, its fullest effectiveness depends upon the sympathetic and insightful co-operation of the entire school staff.

Such speech-correction programs, supervised by professionally trained speech correctionists, who serve as consultants for classroom teachers, conduct in-service training courses, and give individualized and small-group instruction to the more severely affected children, are coming to be accepted as the best means of dealing with the problem. Speech correction, in this sense, is to be found in a rapidly increasing proportion of our nation's schools. Even so, it is doubtful that more than 10 per cent of the school children who need speech correction are receiving it at the present time. This proportion will rise steadily and substantially during the years immediately ahead if present trends continue. It is coming to be more and more clearly appreciated that, for the large numbers of children who need it, our schools have nothing else to offer that is more rewarding and liberating than effective speech correction.

## REFERENCES

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CHAPTER XI

TEACHING THE ORTHOPEDICALLY HANDICAPPED  
AND THE CARDIOPATHIC

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INTRODUCTION

In the past two decades, new horizons have opened in health, welfare, and education. Penicillin, the sulpha drugs, and streptomycin with other and still newer developments in chemotherapy have saved countless lives. Practical application of psychiatry to everyday problems of child care has been made possible through a heightened popular understanding of factors leading to mental and emotional instability. And in education, where interest was formerly concentrated on the three R's, a recognition of the school's responsibility in serving the "whole child" has grown.

Out of the older formal and narrow concept of education has developed the philosophy of a school program in which every phase of the child's development—physical, mental, emotional, social—is now becoming the concern of the school. John J. Lee has described the comprehensive functions of a modern educational system as follows: (a) the *developmental* function—physical, emotional, social maturation, and adjustment; (b) the *diagnostic* function—educational, mental, and social, as well as medical; (c) the *remedial* function—correction not only of reading disabilities, speech defects, etc., but of emotional imbalance and social maladjustment; (d) the *preventative and protective* function—early detection of physical defects and emotional disturbances; and (e) the *knowledge* function—not only the fundamental skills but the whole vocational field. Dr. Lee concludes:

When we observe the responsibility levied upon our schools under the knowledge function alone, it is almost alarming. To develop essential skills, requisite



knowledge, and social insight necessary to live in our complex world when one social crisis follows another in rapid succession is a herculean task; for our schools must be continually preparing 27,000,000 children to become future citizens. Add to this the first four functions which are new since the turn of the century and we see the tremendously widened task and responsibility that are levied upon our schools today.<sup>1</sup>

This chapter is concerned with the orthopedically handicapped, including all children with defects in size and structure of bone or joint or with deviations in muscle strength, co-ordination, or control. The cardiopathic, which are classified by some authorities as children with lowered vitality and by others as children with special health problems, are grouped here with the orthopedically handicapped. This has been done not only because they are handicapped by a muscle defect (the heart muscle) but also because the general type of activity restrictions and curriculum adjustments which need to be made for them correspond closely to those for the orthopedically crippled.

#### FINDING CRIPPLED CHILDREN

All across the country, the question is constantly asked, "How can we know how many crippled children and children with heart defects there are in our community?" An approximate answer may be secured by enumerations and surveys, but a more useful method is to establish and maintain an effective reporting system. Only in this way is the necessary information available on a continuously up-to-date basis.

Among the most important sources of information regarding crippled children are the public schools. Countless undiscovered or neglected handicaps have been reported by alert classroom teachers who have recognized deviations in activity, response, or accomplishment and have related these to untreated physical handicaps. Among such deviations, for instance, are poor motor control or co-ordination of the cerebral-palsied child; the "day-dreaming" of the child with a hearing handicap; the restlessness and lassitude of the cardiopathic; the "inattentiveness" of the epileptic; the physical disability of the child who finds movement painful because of bone or joint defects, arthritis, and so forth.

Alertness of the teacher, followed by insistence upon competent medical diagnosis and treatment, can be of priceless value to the child. For early discovery and treatment paves the way for maximum physical improvement, which may mean full restoration or at least, prevention of further crippling effects. Thus, it is not rheumatic heart disease but rheumatic fever which is of greatest concern; it is the presence of bone or joint

<sup>1</sup> John J. Lee, "Educating Crippled Children," *Crippled Child*, XX (December, 1942), 87.

tuberculosis and bone cancers which must be discovered *before* the child becomes crippled.

Elements in the school program which are highly effective in case-finding are: (a) a continuous census, carefully directed and supervised, and (b) school health programs requiring physical examination or the presentation of a physician's certificate upon entrance.

Important and active as case-finding agencies are the public health nurses and the state crippled-children's services, which hold diagnostic clinics on a state-wide basis throughout the year in every state and in Alaska, Hawaii, and Puerto Rico. Other sources of information in the location of cases are physicians, medical societies, the clergy, and, finally the extensive private-agency programs, such as those of the National Society for Crippled Children and Adults and its various affiliated state and local organizations, the National Foundation for Infantile Paralysis, the American Heart Association, and the many local social service agencies, health agencies, and hospitals.

The fullest development and effectiveness of these case-finding resources can be achieved only when teachers and school authorities realize their own strategic position and make every effort to further the establishment of such services where they do not exist, to improve them where they are inadequate, and to utilize them to the maximum.

#### CLASSIFICATION OF CRIPPLING CONDITIONS

Most of the complicated medical facts relating to the scores of different crippling conditions are not within the realm of practical use by the teacher or school administrator. A general familiarity with crippling and cardiac disorders and with conditions leading to them is, however, indispensable for every classroom teacher. Not only does he have continuous need of such information as he works with the child and his family but such an awareness of the crippling effects of many infectious diseases and an alertness in seeking the existence of unrecognized multiple handicaps will many times lead to seeking urgently needed treatment. Above all, he can help to forestall the development of the devastating psychological handicaps which so frequently accompany physical crippling.

Briefly, crippling conditions may be classified as follows:

1. Crippling due to infection (e.g., bone and joint tuberculosis, osteomyelitis, rheumatoid arthritis, syphilis)
2. Cerebral palsy (spasticity, athetosis, ataxia, rigidity, tremors, or variations of these)
3. Crippling due to birth injury (e.g., Erb's palsy, bone fractures)
4. Cardiopathic conditions (e.g., congenital, acquired)
5. Congenital anomalies (e.g., congenital amputation, congenital dislocation, clubfoot, torticollis, spine bifida, cleft lip and palate)

6. Traumatic crippling (e.g., amputation, burns, fractures, joint contractures)
7. Tumors (e.g., bone tumors, bone cysts)
8. Developmental diseases (e.g., coxa plana, spinal osteochondritis)
9. Other conditions (e.g., fragile bones, spinal curvature, postural foot conditions, muscular atrophy, muscular dystrophy, rickets)

#### GENERAL CHARACTERISTICS OF CRIPPLED CHILDREN

The extent and importance of the problem of the handicapped child is difficult to comprehend and is but vaguely understood by the layman. On December 31, 1946, the Crippled Children's Services of the United States Children's Bureau had already listed 449,545 children under the age of twenty-one on the registers of the forty-eight states, Puerto Rico, Alaska, and Hawaii.<sup>2</sup> And this is only part of the story, since wide variations among the states as to the definition of crippling, along with differences in case-finding efforts, have meant that the names of many handicapped children are not included on these registers. The rapid growth in enumeration that can be expected as crippling becomes more broadly defined, services expanded, and efforts at case-finding are increased is indicated by the addition of over 70,000 names to the register in the two-year period, 1944 to 1946.

Sifting through the various estimates and surveys on crippling leads us to an estimate of 550,000 children with serious orthopedic impairments in the United States, or 1 in 100 persons under the age of twenty-one.<sup>3</sup> In addition, the Children's Bureau estimates that rheumatic heart cases among persons under twenty-one years of age number 500,000.<sup>4</sup>

Since handicaps range in severity from relative mildness to a degree of involvement which precludes school attendance, it is clear that although some highly individualized educational planning needs to be done, by no

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<sup>2</sup> Report of Division of Statistical Research, Children's Bureau, Federal Security Agency, January 26, 1948.

<sup>3</sup> These would be listed as: 175,000 cerebral-palsied; 100,000 with crippling effects from poliomyelitis; and 275,000 crippled from all other causes, including accidents, infectious diseases, nerve and muscle injuries leading to orthopedic defects, rickets, etc. The estimate of cerebral-palsy incidence is made on the basis of studies by Dr. Winthrop Morgan Phelps, Director, Children's Rehabilitation Institute, Cockeysville, Maryland. The estimate of crippling effects of poliomyelitis is based on statistics in *Facts and Figures about Infantile Paralysis* (New York: National Foundation for Infantile Paralysis, 1947). Total figures on orthopedic handicapping are from Kessler, who makes an estimate of 3.72 per 1,000 general population. (Henry H. Kessler, *Rehabilitation of the Physically Handicapped*, p. 36. New York: Columbia University Press, 1947.) This estimate closely approximates that of 1 per cent of school children made by Elise Martens in *The Needs of Exceptional Children* (Washington: United States Office of Education, 1942).

<sup>4</sup> Report of Division of Statistical Research, *op. cit.*

means do all of these children require special educational facilities. The mildly handicapped should take their places in regular classes, while those with more serious physical limitations or multiple handicaps need adjustments varying from part-time special-class instruction up to bedside teaching.

There are some characteristics of crippled children which, known and recognized in advance, will markedly affect the planning for their education. In brief: (a) Many orthopedically crippled children have multiple handicaps; (b) a large number of orthopedically crippled children are over-age for their grade placement; (c) more boys than girls are crippled (d) proportionately fewer Negroes are in crippled children's schools; (e) there is a skewed distribution on the basis of intelligence quotient. These characteristics will be discussed briefly in the following pages.

Children with multiple handicaps present special problems. Defects of communication skills and serious motor disabilities are the handicaps which place the greatest obstacles in the way of the sharing and participation which makes education meaningful. The child who has both sensory defect and physical crippling requires discerning and skilled teachers if he is to realize the maximum use of his assets. Poorly trained or unimaginative teachers frequently mistake one defect for another, such as deafness for mental retardation, cardiac disability for low vitality, and so forth.

In one study, two-thirds of those with multiple handicaps were cerebral-palsied children who frequently had more than one accompanying defect, including impairment of speech, hearing, and vision and mental retardation.<sup>5</sup>

The picture of the chronological-age distribution of children in special classes is rapidly changing from one which includes only children in the middle elementary grades to one which focuses attention also on the pre-school child and those in secondary schools. Increasingly, emphasis is being placed on the young child in therapeutic and educational programs, and schools are making attempts also to meet the needs of children of secondary-school age. One study shows that almost three-fourths of orthopedically crippled children in school are from six to fourteen years of age.<sup>6</sup> This is highly significant for curriculum-planning, particularly when it is noted also that, above the age of thirteen, there is a

<sup>5</sup> Romaine Prior Mackie, *Crippled Children in American Education*, p. 30. New York: Bureau of Publications, Teachers College, Columbia University, 1945.

<sup>6</sup> *Ibid.*, p. 32. In the Mackie study, 70.9 per cent of the total studied were in the age group from six to fourteen, with the greatest number, 20.4 per cent, in the two years, ten and eleven. Only 3.3 per cent were under six, and only 0.5 per cent as young as three years.

marked drop in the number of crippled children in school. Again, it is found that 80 to 90 per cent of crippled school children are in the elementary schools, reaching a peak enrolment in the fifth grade.<sup>7</sup>

It would appear that an analysis of the reasons for this concentration in the lower grades would be most revealing. There could be named, for instance, the lack of facilities for the orthopedically crippled child of secondary-school age, architectural barriers alone forming a most serious obstacle. Then there are the lack of transportation facilities to existing schools, the lack of curriculum adjustments to the mentally and educationally retarded child, and the lack of resources for psychological guidance to help these children toward the social and emotional maturity necessary for successful attendance at secondary schools.

The many orthopedically handicapped and cardiopathic children who are over-age for their grade placement is another factor having a direct bearing on curriculum-planning.<sup>8</sup> This retardation is to be expected because of interruptions in school attendance and classwork for medical and therapeutic treatments, hospitalization, and home confinement.

There are more boys than girls among the crippled, a fact which is indicated in numerous studies. A ratio of approximately 55 boys to 45 girls seems to be rather generally maintained.<sup>9</sup> The significance of this lies in the planning for vocational-training facilities, the development of recreational and interest projects, as well as other such phases of the school program.

The proportionately larger number of white children receiving the benefits of special education facilities<sup>10</sup> may be affected not only by the

<sup>7</sup> *Ibid.*, p. 33. The study by Romaine Mackie reported approximately 80 per cent of the children in Grades I through VIII, 4.4 per cent in preschool classes, and only 7.4 per cent in grades higher than VIII, while the U. S. Office of Education reported that 89 per cent of 24,784 crippled children in city school systems were in the elementary grades. See: Emery M. Foster and Elise H. Martens, "Statistics of Special Schools and Classes for Exceptional Children," *Biennial Survey of Education in the United States, 1938-40*, Vol. II, chap. v. Washington: Federal Security Agency, Office of Education, 1942.

<sup>8</sup> Mackie, *op. cit.*, p. 37. One study, for instance, shows approximately two-fifths of crippled children over-age for their grade placement, and another shows more than one-half. *Report of the Subcommittee on Orthopedically Handicapped Children*, p. 35. New York: New York City Board of Education, 1941.

<sup>9</sup> Mackie, *op. cit.*, p. 37. See also, *Report of the Subcommittee on Physically Handicapped Children*, *op. cit.*, p. 35; and White House Conference on Child Health and Protection, *The Handicapped Child*, pp. 121-22 (New York: Century Co., 1933).

<sup>10</sup> With respect to race, the proportion of 82.0 per cent white to 6.9 per cent Negro is reported in two studies: Mackie, *op. cit.*, p. 43, and the report of the Commission for the Study of Crippled Children, *The Crippled Child in New York City*, p. 19 (New York: The Commission, 1940).

variation in educational provisions for white as against Negro children and by indifferent case-finding efforts in Negro communities but may also be subject to variations in incidence. Dr. Winthrop M. Phelps of the Children's Rehabilitation Institute, Cockeysville, Maryland, has offered the opinion on the basis of thirty years of work with the cerebral-palsied, for instance, that there is a lower incidence of this defect among the Negroes.<sup>11</sup>

Finally, among characteristics important to educational planning are the results shown by psychological testing of crippled children. The great majority of school systems, either by statute or by administrative ruling, have unfortunately designated an arbitrary limit in the form of I.Q. ratings to the boundary between acceptability and nonacceptability as students, although the fallacy of this procedure has long been recognized by psychologists. Reports of individual and group tests indicate that many more scores fall below an intelligence quotient of 80 than fall above 120.<sup>12</sup> In interpreting the scores of crippled children, several factors must be kept in mind, namely, the lack of satisfactory testing techniques for cerebral-palsied children; the difficulty of testing children with multiple handicaps; the unfavorable effect of long periods of hospitalization and bed confinement and limited social experiences. The intelligence of the cerebral-palsied child, in particular, has been the subject of much misunderstanding due to the difficulty of testing children with combined motor and sensory disabilities. Although studies by J. Thomas McIntire show that two-thirds of cerebral-palsied children may be classified as normal in intelligence,<sup>13</sup> many of these unfortunate youngsters are frequently placed arbitrarily with the mentally deficient or are excluded from school.

#### MEDICAL NEEDS

Education cannot be isolated in the life of a child. Schools, textbooks, teachers, and lessons are only the formalistic, tangible phases of education. Health, home life, companionship, and a myriad of similar factors enter into the picture.

When a child is handicapped, there are additional complications. Medical care and treatment and a whole complex of therapies have now become an integral part of the educational program for the handicapped,

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<sup>11</sup> Winthrop Morgan Phelps, Testimony at hearings before the Committee on Labor, Subcommittee on Aid to Physically Handicapped, House of Representatives, Seventy-ninth Congress, First Session, Part 20, "Spastics," October 11, 1945, pp. 2056-57.

<sup>12</sup> Mackie, *op. cit.*, p. 44.

<sup>13</sup> J. Thomas McIntire, "The Incidence of Feeble-Mindedness in the Cerebral-palsied," *American Journal of Mental Deficiency*, L (April, 1946), 494.

with the realization that education and medical care must parallel each other in order to achieve maximum effectiveness in each. Without maximum physical ability and co-ordination, the child is unable to secure all the benefits of the educational program, and, equally important, the child cannot benefit fully from medical care and treatment unless he is enjoying the mental stimulation, the satisfactions of achievement, and the delights of new worlds to conquer through books that come to him under the guidance of the teacher. Thus, it is inevitable that the teacher can be truly effective only if he understands the physical needs of the child and can help him toward the best use of his abilities and only if he knows how far and how fast the child should be urged to move.

A school program for the cerebral-palsied offers an excellent example of teamwork in operation. Some schools in metropolitan areas, for instance, have a special kindergarten for preschool cerebral-palsied children. The diagnostic procedure itself, however, may include participation by the neurologist, the orthopedic surgeon, the ophthalmologist, the otologist, the pediatrician, the speech pathologist, the psychologist, and the psychiatrist. Following an assessment of the child's abilities and a prognosis for training and education, recommendations are made for treatment.

It is at this point that the teacher comes into his own, for in school, where the child spends much of his active waking time, a program of treatment and education may be most effectively and efficiently instituted. When fully informed as to the medical recommendations for therapy and the measures being pursued by the therapists—physical, occupational, and speech—the teacher can supplement their efforts, know when and where pressures need be applied, and what should be expected from the child, as well as how best to encourage these youngsters to use their abilities in school. Thus, no phase of the treatment program can be isolated.

Some of the values arising out of this teamwork are greater teaching effectiveness, avoidance of duplication of effort, protection of the child from the anxiety of conflicting authority and the frustration of being faced with tasks beyond his accomplishment or from the perpetuation of an emotional immaturity resulting from overprotection. Again, it makes possible a greater use of available resources and a more consistent program for the child.

It can, therefore, be seen that the view held by some that medical needs are not properly a part of a discussion of educational planning is not only short-sighted but distinctly contrary to the best interests of the crippled child. *Teamwork* is of primary importance. This cannot be emphasized too strongly, for all who play a role in the child's education and

treatment are members of this team—family doctor, medical specialist, physical therapist, occupational therapist, speech therapist, teacher, and parent. Whether the special-education services are offered at home, in the hospital, in a special school, or in a regular school, it is the co-ordination of these services that is important. The doctor needs to know the special demands of schoolwork and class attendance on the child so he can outline an activity program; the teacher needs to know to what degree the child is physically capable of maintaining sustained effort.

In fact, the relationship between medical care and education of cerebral-palsied children is so close that many authorities consider each to be of equal therapeutic value to the child.<sup>14</sup> Dr. Winthrop M. Phelps has stated:

A child with cerebral palsy who is educated but given no physical training will make less progress in school than if he were also receiving physical treatment. The situation is the same if the child is getting physical treatment and no education. His progress physically will not be as rapid as if he were learning normally at the same time. The two fields interrelate and when carried out simultaneously, total rehabilitation is more successful.<sup>15</sup>

In more ways than one, the crippled child's future may lie in the hands of his teacher. Many times the success of surgical operations and medical treatment depends upon the teacher's skill and inspiration in guiding the child toward acceptance of his handicap and in stimulating him to earnest effort in the use of his physical and mental energies.

There is a delicate balance to be achieved in stimulating a child to do his best and yet not making requirements of him beyond his capacities. Thus, there is a special need for constant medical supervision—supervision of physical activity, rest schedule, therapy, etc. Whether this is done through regular check-ups on the part of the family physician or by visits of a medical specialist retained by the school for this service, as is done in some cases, is a matter for individual decision.

Physical therapy is an indispensable service in the crippled child's school program. When so offered, and correlated with other services, it saves time, effort, and energy on the part of child, teacher, and therapist; it serves to link more closely the educational and medical program; and it makes possible the greatest service to the largest number of children.

Other dramatic changes have been made in recent years in school programs for crippled children. Occupational therapy has come into its own in the training and rehabilitation of the handicapped, going far beyond

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<sup>14</sup> Earl R. Carlson, "Give Them Education," *Crippled Child*, XXV (December, 1947), 4-5, 29-30.

<sup>15</sup> Winthrop M. Phelps, "Questions Parents Ask: With Answers," *Crippled Child* XXV (August, 1947), 4-5.



the craftwork to which it is limited in the thinking of so many. As Miss Spackman notes, the four main fields in which occupational therapy is called upon are "psychiatric, restoration of physical function, prevocational, and diversional or preventive,"<sup>16</sup> utilizing techniques in recreation, industrial arts, education, and the creative arts. The place which these therapeutic techniques hold, then, in the educational program is high, for they touch upon development of the child's mental and emotional life, his motor co-ordination and control, his employment abilities, and his social life.

Increasingly, therefore, special schools and classes for crippled children are adding occupational therapy to the physical therapy which has been a part of their programs for so many years. Nor is such service limited to large cities, since crippled children's societies in the many communities are underwriting its cost in order to demonstrate the value of occupational therapy as an integral phase of the educational program of handicapped children. Again, it must be stressed that both physical therapy and occupational therapy must be offered only under medical supervision and by qualified therapists.

#### EDUCATIONAL PROVISIONS FOR CRIPPLED CHILDREN

Whenever their physical abilities permit, orthopedically handicapped and cardiopathic children should attend regular classes with normal children, where they may have as many of the same kinds of experiences as possible and may learn to respond on the level that will be expected of them when they enter the competitive world. For those who are not physically capable of such a program, however, it is necessary to adapt staff, facilities, curriculum, and equipment so that all who can may receive educational benefits.

#### Organization of Educational Programs

Three forms of educational provisions are made for orthopedically crippled and cardiopathic children—the day school, the residential school, and teaching of the homebound.

The day school, which accommodates by far the greatest number and variety of children with such handicaps, may include any of four types: special provisions in regular classes, special classes in regular schools, special centers for the handicapped in schools for normal children, and special schools, which may be for the orthopedically handicapped only or may include all types of exceptional children.

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<sup>16</sup> Clare S. Spackman, in *Advancing the Education of the Hospitalized Child*, p. 61. Report of a conference sponsored by National Foundation for Infantile Paralysis February 26-27, 1948.

Residential facilities include three types: institutions or sanatoria, convalescent homes, and hospitals. To these, special teachers are assigned. Probably the greatest value of such service to the child who is hospitalized or confined at home is the salutary effect on his mental and emotional well-being. The child who is kept busy, whose mind is occupied, and who has immediate and important goals toward which to work is happier and more relaxed and makes more rapid progress toward recovery than the child who is left to his own devices. Maintaining grade level has been relegated to a secondary place by those educators who consider this too narrow a concern and one which too often causes us to lose sight of the deep, personal needs of the child.<sup>17</sup>

The third type of educational program, teaching of the homebound, is employed for the child who is too handicapped to be transported to school, for whom transportation facilities are not available, or who is excluded from school for some other reason.

### Curriculum Provisions

What are some of the dynamic teaching aids that will make education comprehensive, alive, and interesting to children? There are many, as will be seen in the following paragraphs.

Use can be made of visual aids, including motion pictures, slides, stereopticons, and the still newer development of projected books, which, operated by a finger or a toe, enable the bedfast child to read. Ceiling projectors also bring the motion picture to the totally helpless.

Recordings open other new worlds, offering a dramatic way of teaching and stimulating an interest in and love of music. Other auditory aids are telephone and radio. In Iowa, for instance, experiments with two-way electrical equipment has been successfully carried on, enabling the homebound child to participate in class discussion. The potentialities of radio have not been even explored, much less utilized, although some hospital classes have used this method of dramatizing history, current events, and social studies. Television, now in its infancy, offers further field for speculation as to its use as an educational tool.

Page-turners for those who could not otherwise read books and electric typewriters for children who cannot write due to lack of motor control and co-ordination are among other types of equipment which can be of invaluable aid in stimulating the crippled and cardiopathic to share in the world about them and to make their own contribution to it.

Nor is a wealth of highly expensive equipment and educational aids required. Many times it is the homemade equipment, the makeshift ap-

<sup>17</sup> See comments by Dr. Alice V. Keliher in *Advancing the Education of the Hospitalized Child*, op. cit., p. 25.

pliance, the practical use of everyday materials which is most effective in bringing out creative abilities and crystallizing interest. New realms of science can be introduced to children through imaginative use of simple magnets, bells, thermometers, and barometers. Chemical gardens, bulbs, and seeds are the nucleus for exciting the children's interest in botany and agriculture. Rocks, minerals, and fossils can provide a way of bringing to the child the thrill of discovery in geology and paleontology. Simple experiments in chemistry and physics offer opportunities for an entire hospital group to participate or for a whole class to rediscover the findings of Galileo, Newton, and the great chemists.

Such learning experiences provide *motivation* in education, as opposed to the blocking, anxiety, and failure which so often result from efforts to stimulate through competition with others.

Subjects in social studies are made vivid and realistic by the teacher who directs amateur construction projects in the sandpile or on the work table through use of plastics, tin foil, wood blocks, and toys. Three-dimensional pictures supplementing a story-hour or history lesson impress the subject indelibly upon the pliable minds of children. Cutting up old magazines, the presenting of plays based on American folklore, and constructing puppet shows are not simply recreational projects but can be dramatic methods of teaching arts and science as well as history, civics, and social science.

Group projects in art, venturing into story-telling, music, singing, finger-painting, and a myriad of craft projects offer endless opportunities to the imaginative, skilled teacher. The color and cheerfulness growing out of such an atmosphere provide an environment in which children are stimulated to make use of their creative abilities.

Extra-curriculum activities, as well as classwork, need skilled guidance. Experiences which are closely linked with various phases of classwork and at the same time provide excellent means of outside social contacts include outings, school picnics, trips to zoos, museums, and factories, visits to farms, and so forth. These, along with games and activities requiring exercise within the physical capabilities of the children, can be scheduled in accordance with individual needs and limitations.

### Vocational and Personal Guidance Needs

Since the two major aims of treatment and education of the handicapped are to help them to be socially acceptable and to make them partially or completely employable, the importance of enrichment of the curriculum cannot be underestimated.

The more that abilities rather than disabilities, and assets rather than liabilities, can be made the basis for formulating the crippled child's pro-

gram, the more it will be possible to develop those skills which can be made the basis of economic independence. Special training can be encouraged, for instance, in watch-making, jewelry-making, typing, upholstery, sewing, music, photography, industrial arts, and other such accomplishments, any of which may become a source of income.

The limitations which severely handicapped persons will have in achieving economic self-sufficiency are recognized, of course, but even when partial success is attained or when the severely handicapped can be made self-sustaining under sheltered workshop conditions, a desirable goal has been reached. Although the problem of the severely handicapped is one of a large-scale public function, the school unquestionably plays a highly important role in the approach to this task.

Vocational guidance, education, training, and placement are thus integral functions of the educational program. The need for vocational training earlier than is necessary with the physically normal child and the special needs of the physically handicapped in this regard are discussed in chapter v of this volume.

The function of the schools in providing psychological service as one phase of guidance cannot be separated from an effective educational program. As is shown in chapter iii of this volume, it extends deep into the child's life—social, health, educational, and vocational—and, indeed, cannot stop there, for some of the most urgent guidance needs are those which must be met after graduation. Many schools have assigned to these duties a well-trained counselor whose function is above and beyond teaching and who continues contact with pupils until the best possible social and vocational adjustment has been achieved.

One of the most important functions of the teacher is to aid in helping the child to accept his handicap, to prevent the psychological crippling which is so often more damaging than a physical handicap. This begins with personal friendliness, warmth, personal interest, patience, kindness, and honest liking and respect for children, along with an understanding and recognition of their handicaps. The teacher should know that a handicap from birth has an entirely different impact on the personality from one acquired later. Every effort should be directed toward assisting the child toward the greatest possible degree of self-acceptance, self-reliance, and adjustment to his limitations and toward a realization that he should not expect favors and concessions because of his handicap. It is in this area that the teacher should seek the guidance of competent psychological consultation. The objective should be not only to bring the child to accept his handicap but also to develop a philosophical attitude which will help him face the inevitable discussion of it, the moments of being stared at, and other undesired attentions he will receive because of his physical condition. To achieve this, he needs to gain as much

knowledge regarding his handicap as his degree of maturity makes advisable; he must secure understanding of the reasons people react to handicapped persons as they do; and he needs to be given actual techniques of meeting unpleasantnesses arising from the reactions of others to him.

Interpreting the handicapped child to his classmates to gain their understanding and acceptance and to eliminate the nagging, teasing, and imitating of schoolmates is of paramount importance. Once successful steps have been taken toward achieving this aim, the way is paved for the handicapped child to share responsibilities and to participate to the extent of his ability in class activities as well as games and to gain the feeling of adequacy and personal worth so essential to emotional maturity. The child who has confidence in his acceptance by those whose respect he values, who has formed significant friendships, and who has a sense of belonging is not crippled by fears and inferiorities which find their outlet in undesirable compensatory behavior.

Every child needs a balance of affection and achievement. Lacking the one, he will attempt to compensate by seeking too much of the other. All too frequently, the physically handicapped child is faced with rejection and withdrawal of affection at home and its counterpart, overprotection. Either type of handling is equally damaging, tending to increase the child's dependence, his fear of new experiences, his insecurity, and his exaggerated quest for affectional response.

Although the teacher cannot correct at school or in the hospital class the defects of a child's home adjustment, he can help the child face his difficulties through offering him sufficient opportunities to progress toward achievement in those areas where his abilities lie as well as toward success in his relationships with other children. Thus, he will have that important measure of security which each child must find in satisfactory social contacts outside his home.

Acquaintance of the teacher with the child's family is imperative, so that he can be equipped for a real understanding of the child. Through such a working relationship, too, he can serve as a liaison between the family and resources for child guidance and health services which are available—the school psychologist, the behavior clinic, the child welfare worker, the public health nurse, college and university research centers, and others.

As described above, the utilization of skills in arts and crafts, dramatics, music, shopwork, and hobbies offers the means of self-expression and of building self-confidence in achievement, thus helping the handicapped child in growth toward social maturity and emotional stability and in the development of a richer personality.

Finally, participation in group activities is basic in integrating the

handicapped child into community life. More effectively than any other agency, the school can provide these experiences which enable crippled children to share activities with normal children, even those activities in which their physical incapacity permits only limited participation.

Special problems are presented by the large number of crippled and cardiopathic children who are over-age for their grade. Severe emotional upsets frequently occur during adolescent years because of lack of social acceptance and limitations in ability to participate in the activities of this age group. The need for extended opportunities, including expert educational counseling at the secondary-school level, cannot be stressed too greatly. It is, indeed, a sad commentary that the majority of orthopedically crippled children drop out before reaching high school. It is not to be inferred, however, that all the essential adjustments lie within the province of the formal school curriculum; for even the most excellent facilities cannot be effectively utilized by young people who are unprepared for the social world in which they must live.

Although some phases of this personal growth can be developed through stimulating participation in Scout troops, clubs, and other interest groups, there is another and vitally important aspect. This is personal appearance and good grooming. All too often the role played by personal appearance in the shaping of the personality of a handicapped child is overlooked. The feeling of personal worth, confidence, and security which is so frequently lacking in the child with a physical handicap—particularly a handicap which is disfiguring or which makes the individual unprepossessing—can be fostered best in the clean, well-groomed, well-dressed child.

The discussion so far has taken for granted the existence of resources and facilities to meet these varied and special needs of the orthopedically crippled and cardiopathic children. There are many communities, however, where such facilities are not available, and it is here that the contributions made by voluntary agencies and service clubs have proved so valuable. State societies for crippled children, local agencies, civic and service groups, and fraternal organizations have all participated in various communities to provide equipment for special orthopedic classes—audiometers, station wagons, and aids, braces, and prostheses, to mention a few. These private groups have also contributed innumerable other types of support for school programs, including underwriting the salaries of special teachers, physical therapists, occupational therapists, and speech therapists and supporting adequate legislation for special education. Such programs, it should be made clear to all concerned, remain under school supervision and under the public educational control.

The question of special services to certain diagnostic groups is one

which frequently arises. There are some who believe that separate programs should be designed for different types of handicapped children, such as the cerebral-palsied, the blind, and the cardiopathic, holding that such children should be placed with similarly handicapped children in order to avoid frustration and undue competition.

Others believe, however, that all effort should be directed toward paving the way for close participation not only in the activities of other types of exceptional children but also in those of normal children. This viewpoint is supported by the fact that many children with physical limitations find it easier to accept their handicaps when they are in situations which help to emphasize those elements of superiority that they do possess. The ambulatory child, who can run an errand for one who cannot walk and, in turn, be helped by the child who perhaps cannot walk but has finger dexterity, finds it easier to adjust to his own limitations and gains a feeling of usefulness and worth. Early in life the handicapped person must face the reality of his ultimate entrance into a world peopled chiefly by the nonhandicapped. This is more easily done if the child has become adjusted to this reality by early and gradual experience than if he is faced with it suddenly after a relatively sheltered and protected school life.

Some of these adjustments can be effected in preschool years through nursery-school experiences. The values of such facilities for orthopedically handicapped children are being stressed, more especially for the cerebral-palsied, because these children need early, consistent training. Since their lack of motor control and co-ordination is frequently complicated by defects of speech and hearing, it takes them much longer to acquire the skills necessary for classroom participation. Increasingly, pressures for broadening state special-education provisions for young children are beginning to be felt. Among these is a movement to lower the entrance age for the handicapped child so that the parent, who is carrying the burden of care and training at this age, may have the benefit of guidance and supervision during those preschool years. Financial aid is usually available to local school systems for services thus rendered.

As one study states:

The early years before the child would ordinarily enter school offer so much in the way of possibility for physical improvement and for promoting an intellectual, emotional, and social development which is as nearly normal as possible, that the best efforts should be concentrated on this period.

By an adequate process of discovery, effective follow-up, and admission to school at as early an age as possible, the nature of the orthopedically handicapped group could be materially changed. Many of them could be so benefited that they could take their places in regular schools rather than in orthopedic schools,

and all would be in so much better condition to profit by their school experiences that the effectiveness of the schools would be increased manifold. Development of the possibilities that lie in the area from birth to the present minimum school age will pay large dividends to the individual and to society."<sup>18</sup>

Throughout the elementary grades, special remedial programs in the basic skills are necessary with the orthopedically handicapped and cardiopathic, because of frequent interruptions in school attendance caused by absence for medical care and by difficulties many experience in gaining and maintaining necessary motor controls. Thus, the teacher must be on the alert to detect difficulties or failures on the part of these children to meet generally expected achievement levels which are related to inadequate grasp of reading, writing, spelling, and arithmetic. For this and many other reasons, a fixed grading and promotion system is not an appropriate educational procedure with crippled children. Standards of grading should be flexible, based on the *best* a child can do, and promotions should be judged according to a wide range of factors.

Closely linked with accomplishment in school is the degree to which nutritional needs of the child are met. Therefore, a vital phase of planning for the orthopedically handicapped is that of such dietary supervision as may be exercised by the school. Where school lunches are provided under a tax-supported program, special care can be given to proper food balance and adequate intake. This is particularly important in some conditions such as cerebral palsy of the athetoid type. The caloric intake of these children is tremendous, and their nutritional needs may be so disturbing as to affect their entire response to educational and treatment programs.

### Special Equipment Needed

Children having handicaps which do not affect their locomotion are not in need of the special equipment and architectural adjustments that are required by the crippled. Some of the factors which need to be considered for the orthopedically handicapped are as follows:

*Elimination of Architectural Barriers.* If possible, the building accommodating the orthopedically handicapped and the cardiopathic should be one story only. If this is not possible, elevators and ramps are needed to accommodate the wheel chairs and those children who cannot or are not permitted to climb stairs. There should be wide doorways to facilitate the locomotion of persons on crutches and in wheel chairs. Acces-

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<sup>18</sup> *Services to the Orthopedically Handicapped*, p. 12. Report of a Study Made under the Auspices of the Trustees of the Widener Memorial School for Crippled Children and the Board of Public Education, School District of Philadelphia. Philadelphia: Walther Printing House, 1942.



sibility of exits, wardrobes, lavatories, toilets, and drinking fountains should be planned with care.<sup>19</sup>

*Safety Factors.* Recessed radiators, composition floors, and smooth walls are among essential prerequisites of safety. Railings, not only along hallways and stairways but also in the center of hallways to encourage walking and self-help, are of primary importance. Safety factors are involved not only in equipment and facilities, however, for some involve the human element. For instance, the child with tubercular bones must be protected from bumps and bruises, and the cerebral-palsied child must be helped to maintain his balance and posture, to avoid painful falls.

### Factors in Relaxation

There is little in the school program for normal children which does not apply with equal emphasis to that for the orthopedically handicapped and cardiopathic. Elimination of elements of strain and sources of distraction, important for all children, are doubly important for the handicapped child. Among the factors in relaxation which should be emphasized are soft color schemes, sound-absorbent walls and ceilings to prevent acoustic trauma, good ventilation and lighting, dull surfaces on walls and equipment to prevent eye strain, and even the color of the chalk used on the blackboard. It has been found that certain shades of yellow and orange are preferable to white chalk since they provide the desired contrast and at the same time are more restful to the eye.

Finally, there should be well-ventilated rooms, with cots and blankets for those who require regular rest periods. Relaxation chairs for the cerebral-palsied and reclining rest chairs for the cardiopathic are highly desirable and, in many cases, essential.

Special mention should be made of the fact that the orthopedically crippled and the cardiopathic spend much more time in the classroom than does the normal child and frequently completes most of his elementary-school requirements in the same room. It is important, then, that this be a pleasant room and that it receive constant attention with respect to cleanliness, brightness, and cheerfulness.

*Special Equipment To Meet Individual Needs.* Of primary concern with regard to special equipment is that for physical therapy. Due to differing needs of various types of handicapped children among the

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<sup>19</sup> Within the past year, three highly informative articles have been published by the National Society for Crippled Children discussing the problem of architectural barriers: Warren Gauerke, "When You Build That School for the Handicapped," *Crippled Child*, XXVI (December, 1948), 12-13; Christine Salmon, "Architects Can Help You Plan for the Handicapped," *Crippled Child*, XXVI (June, 1948, and August, 1948); Al Tudyman, "A Public School Plan for Special Cerebral-Palsy Classes," *Crippled Child*, XXVI (February, 1949), 20-22, 29-30.

orthopedically handicapped and variations in emphasis upon kinds of treatment, such equipment is not standardized. Treatment tables, devices for corrective exercises or for encouragement in walking, and equipment for heat treatments and hydrotherapy are among the most frequently used.<sup>20</sup> Plans for pools and other types of costly installations should receive the most careful scrutiny before they are included in orthopedic-school equipment.

Many times, the needed adjustments in equipment can be made by the school carpenter, under medical direction. A paramount need is for movable furniture, including movable desks adjustable as to height and having seats with needed attachments. For cerebral-palsied children, who so frequently have additional handicaps of speech, vision, or hearing, it is advisable to have sight-saving material and acoustic aids available. Tables, workbenches, tools and equipment for occupational therapy and handicraft, as well as equipment for a rhythm band should be included. In those school programs which include vocational training, additional equipment would be required.

The individual needs of the homebound child are many times more difficult to meet, since the degree of handicap is usually greater and the equipment is seldom usable by more than one child at a time. Such elaborate types of equipment as page-turners, wall and ceiling movie projectors, record players, and portable museum exhibits are all highly useful for teaching the homebound. It is such equipment that state and local crippled-children's societies, civic and fraternal organizations, and service groups can be encouraged to provide.

One factor which is not a problem in the rural or suburban school but which may present difficulties in the urban center is space and facilities for outdoor play. In addition to ground space, an asphalt or concrete-covered terrace is needed for use by small children who operate tricycles and other wheeled vehicles as part of treatment procedures and recreation. Sandboxes, push and pull toys, and other such types of equipment are of very real therapeutic value as well as means of gaining experiences in socialization and relaxation.<sup>21</sup>

#### EXAMPLES OF SCHOOL PROVISIONS FOR CRIPPLED CHILDREN

There are some provisions for orthopedically crippled and cardiopathic children which must be made in the school over and above those which

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<sup>20</sup> A brochure on equipment for treatment of cerebral palsy is in process of preparation for publication by the National Society for Crippled Children.

<sup>21</sup> See "Brief Outline of Suggestions for Setting Up a Therapeutic Day Nursery for Preschool Cerebral-palsied Children," Chicago: National Society for Crippled Children and Adults, Inc., 1947 (mimeographed).

are made for all normal children. These include medical supervision of treatment programs, physical and occupational therapy, speech therapy, and transportation, in addition to adaptations of regular routines to the needs of the physically handicapped.

### Medical Examination

Routine health care, including physical examinations upon entrance and after each illness and nursing care during acute illnesses at school, is as urgently a part of the school program for the physically handicapped child as it is of that for the normal child. Close co-operation is required with the family physician, the orthopedic specialist, the cardiologist, and others interested in the child's welfare and development.

### The Therapies

Physical, occupational, and speech therapy are recognized as integral parts of the plan which has as its goal maximum educational and treatment benefits. Treatment centers have been established in co-operation with schools when other facilities in the community were not available or were financially beyond the reach of the crippled child from the low- and middle-income groups. In such centers, close co-ordination exists between the medical and educational programs, with teacher and therapists following closely the recommendations of the medical specialist and working as a team.

Second, provisions have been made in certain areas for itinerant physical and occupational therapists, so that children, for whom transportation is not available or for whom attendance at school would be difficult or impossible, may receive needed services under medical direction. Such therapists have as a part of their responsibility the training of parents in carrying on the treatment program so that regular treatment procedures may be followed daily, thus hastening recovery and rehabilitation. Mobile speech and hearing clinics and summer speech centers, established in co-operation with state universities and state societies for crippled children, are proving of incalculable benefit to children who would otherwise not have access to facilities for accurate diagnosis and recommendations for treatment.

Encouragement of parent participation in school activities is of vital importance. Programs for discussion of problems of infant care, child development, and health education, as well as therapeutic procedures and other problems in the care of the orthopedically crippled and the cardiopathic provide an excellent means of promoting such participation. Under proper supervision and guidance, the energy, interest, and enthusiasm of parent groups can be channeled to take much of the burden

off the shoulders of teachers and therapists and, in addition, can help to create a better environment and home atmosphere for the child.

### Transportation

Three types of transportation have been made available for crippled children who are unable to make their way to schools on public conveyances. These are: special bus, taxi, and private automobile. There are considerable differences in the expense involved, and school districts cannot usually assume the cost of the latter two types. Factors to be considered in bus transportation are: safety, comfort, time en route, economy, and the availability of specially qualified and insured drivers. When a bus is used, careful and frequent checks on its condition are essential for the safety of the passengers. Since folding wheel chairs, relaxation chairs, crutches, and other paraphernalia often need to be taken into the bus with the children, there may be added difficulties in making the children comfortable unless the bus is specially constructed. In loading and unloading upon departure from and arrival at school, each child can assist according to his abilities, thus providing one more situation in which each can demonstrate his capacity for self-help as well as for service to others.

The character, personality, and resourcefulness of bus driver and attendant are of very real importance, as may be seen when it is considered that some children spend as much as two hours a day, or more than 12 per cent of their waking hours, in the bus. This transportation time frequently can be shortened, with careful routing of the bus.

### Special Plans and Adaptations

Special plans of assistance during fire drills can be formulated as soon as the physical abilities of the various children are determined at the beginning of the school year. Each child may be assigned a duty or responsibility at doors, stairways, or with reference to assisting some other child, and, in this way, remarkably quick time can be achieved in emptying the building during fire drills.

Many schools have utilized the public address system to eliminate difficulties of messenger work and to speed the contact which can be made with the pupils in emergencies. The system can also be utilized effectively as an educational device and for lectures and announcements.

Finally, various adaptations of plans to make library facilities available to crippled children are necessary. Although it is preferable for each school to have its own library, this frequently is not the case; nor do all hospitals and institutions have adequate facilities. Therefore, co-operative planning is required with the public libraries, county libraries, and

central education libraries to insure maximum access to their resources. Many hospitals and convalescent homes have efficiently put into service circulating libraries which are wheeled to the children's rooms. For those who are homebound, the itinerant or mobile library is important when books cannot conveniently be taken from school to child. The library problems of the teacher of the homebound are especially critical if he must personally deliver books and source materials.

Special help is required by those children who cannot utilize the regular school library because of architectural barriers such as steps or narrow corridors. For those who gain access to the library, room has to be made for wheel chairs, tables must be maneuverable, and other adaptations need to be made to facilitate use of the books by the handicapped children.

### LOOKING TO THE FUTURE

It has been seen, then, that the horizon of education of orthopedically handicapped children now extends far beyond the confines of its previous narrow bounds. Its future, it is hoped, will be yet broader, encompassing the long steps that can be taken after further research yields essential information.

First of all, we look forward to a truly close co-ordination of the medical and educational services, so that each may contribute its maximum to the welfare and development of the handicapped child. Closely linked with this is research into school health programs and education of the public in the prevention of crippling.

We look forward to a co-ordination of mental hygiene efforts that will enable the everyday use of child-development concepts with children in school and at home, so that the greatest degree of mental health may be assured.

The needs of rural areas must have attention focused upon them, and ways and means must be devised to meet these needs so that one-third of our nation's children may have the advantages they now lack.

We look forward to the extension of services for the orthopedically handicapped and the cardiopathic so as to meet the vital needs of three groups who are now, for the most part, neglected: the preschool youngster, those in secondary school, and the handicapped adult. This requires research into elimination of architectural barriers, development of new curriculum materials, and research in the broad field of counseling, vocational guidance, and placement. The handicapped veteran requires a whole new approach in curriculum-planning. The problems of his educational advancement are of a kind which never before have been encountered.

An intensive program of public education must be undertaken to inter-

pret the needs of the handicapped, the task of the school in meeting these needs, and the role of the parent in the whole program.

It is hoped that the future will see an increasing emphasis on abilities rather than disabilities and that this may form the basis of broad and inclusive legislation for special-education provisions.

Finally, we look forward to a better integration of the handicapped into community life, with the schools offering an important means of reaching this goal. This involves not only research into educational techniques and modernization of curriculums but also greater use of the school as a social center and fulcrum of community life. In this way, we hope to make measurable progress toward our ultimate goal for the crippled child—to make of him a happy person and a good citizen, offering his fullest possible contribution to his family, his community, and his country.

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## CHAPTER XII

### SPECIAL EDUCATION FOR THE EPILEPTIC, THE TUBERCULAR, AND CHILDREN WITH GLANDULAR DISORDERS

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#### IDENTIFYING THE CHILDREN WHO REQUIRE PARTICULAR TYPES OF SPECIAL SERVICES

While many phases of the education of exceptional children demand close co-operation between the medical and educational fields, the education, care, and treatment of a few distinguishable groups of exceptional children require closer affiliation of the two sciences than do others. This is particularly true in considering the education of epileptic children, those with tuberculosis, and certain individuals with disorders of glandular functions. The problems involved in designing the special-education programs for children included in these three groups are both educational and medical in the sense that the contributions of the medical profession to the education of these groups are very important to the success of the educational program. The location of such children demands the full co-operation of private physicians, teachers, public health nurses, public and private welfare agencies, religious groups, and other civic leaders within the community. Surveys which enlist the co-operation of such diverse groups within a community bring to light many exceptional children who need special medical and educational attention but whose special needs have for various reasons been ignored.<sup>1</sup>

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<sup>1</sup> W. M. Cruickshank and E. Sprague, *A Survey of Exceptional Children in Three School Districts in Onondaga County, New York*. New York: Syracuse University, 1948. See also, Edward Bridge, *Epilepsy and Convulsive Disorders in Children*. New York: McGraw-Hill Book Co., Inc., 1949.



## EPILEPSY IN CHILDREN

## Extent of the Problem

Epilepsy is seldom recognized or understood as one of the major medical and educational problems of our time. In spite of the advances of modern medicine and psychology, misconceptions still surround the epileptic person. Accordingly, many epileptic children are not reported by their parents, and knowledge of their presence in society is largely accidental.

It is estimated that there are about 700,000 epileptics in the United States.<sup>2</sup> It is assumed that the percentage of incidence among the population is fairly stable, for in both World War I and World War II the United States Army rejected about 5 per 1,000 drafted men because of epilepsy. It is to be noted, however, that the identified cases appear in strikingly variable proportions in different reports. During the first World War the number of men rejected because of epilepsy varied between 1.20 per 1,000 in South Dakota and 12.72 per 1,000 in Vermont;<sup>3</sup> whereas, although complete statistics have not yet been made available for World War II, a report published in 1941 showed that, from a group of 19,923 men, 2.0 per 1,000 were rejected as epileptic. A second survey, including 122,000 men, showed that 3.7 per 1,000 draftees were epileptic. A third analysis brought the incidence of epilepsy among draftees up almost to the rate reported in the first World War, namely 5.1 per 1,000 men.<sup>4</sup>

It is difficult to generalize from these figures regarding the incidence of epilepsy among the general population within the country as a whole. The men included in the above figures came from an age level which did not include children. How the older age group which includes few epileptics and the younger age group which includes many epileptics should be weighted in comparison with the men of draft age is not definitely known. If these two groups tend to balance each other, then the previously mentioned figure of about 5.0 per 1,000 individuals of draft age would be accurate. These data from army records apply only to males. Lennox, however, states that epilepsy is equally prevalent among males and females.<sup>5</sup>

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<sup>2</sup> Paul H. Hoch and Robert P. Knight, *Epilepsy: Psychiatric Aspects of Convulsive Disorders*, p. 42. New York: Grune & Stratton, 1947.

<sup>3</sup> *The Medical Department of the United States Army in the World War*, p. 143. Washington: Government Printing Office, 1929.

<sup>4</sup> *Physical Examinations of Selective Service Registrants during Wartime*, p. 126. War Department, Medical Statistics, Bulletin No. 3. Washington: Government Printing Office, November 1, 1944.

<sup>5</sup> William G. Lennox, "Epilepsy," *Clinics*, IV (August, 1945), 504-20.

### Causes of Epilepsy

The causes of epilepsy are numerous and not thoroughly understood. Walker<sup>6</sup> lists three major groups of conditions in connection with which epilepsy may occur in adult life, namely, intracranial disturbances, inflammatory processes, and general somatic diseases. According to the report of one extended study, the most common type of epilepsy in children is that caused by acute infection, which accounts for 33.4 per cent of the cases identified. Idiopathic epilepsy, or epilepsy of unknown origin covers 26.3 per cent of the cases studied, and cerebral trauma is said to explain the appearance of epilepsy in 14.2 per cent of the cases.<sup>7</sup> The cause of epilepsy in one child may not necessarily be the disturbing factor for another individual. Shanahan<sup>8</sup> and Peterman,<sup>9</sup> for example, have ascribed convulsive disorders in children to a wide variety of causes such as heredity, disturbances of a prenatal environment, birth injuries, maldevelopment during infancy, infections in early life, allergy, malnutrition, rickets, and tetany. Fatigue has been suggested as an instigating factor by Weinberg,<sup>10</sup> while Robinson<sup>11</sup> advanced the theory that perhaps idiopathic epilepsy might be induced by ocular pressure after noting such a condition in one of his patients. Pituitary tumors, migraine, and rheumatic fever are but a few more of the pathological conditions which have been suggested as possible causes of epilepsy. Relatively new, rheumatic epilepsy was first discovered and discussed in France about ten years ago when the term was applied to those patients who have developed convulsions following such diseases as rheumatic fever, chorea, or chronic rheumatic cardiovascular conditions.

*Heredity as a Factor in Epilepsy.* The question of whether or not heredity is a leading and important factor in epilepsy has confronted geneticists and medical authorities for many years. Stein's report of an investigation of 1,000 institutionalized epileptics and 1,115 nonepileptic control subjects at the Monson Massachusetts State Hospital for Epileptics in

<sup>6</sup> A. E. Walker, "Convulsive Seizures in Adult Life," *Archives of Internal Medicine*, LVIII (August, 1936), 250-68.

<sup>7</sup> M. G. Peterman, "Convulsion in Childhood: Twenty-year Study of 2,500 Cases," *American Journal of Diseases of Children*, LXII (October, 1946), 399-410.

<sup>8</sup> W. T. Shanahan, "Epilepsies: Etiology and Symptomatology," *New York State Journal of Medicine*, XXX (November, 1930), 1359-64.

<sup>9</sup> Peterman, *op. cit.*

<sup>10</sup> M. H. Weinberg, "Fatigue as a Preceptitating Factor in Latent Epilepsy," *Journal of Nervous and Mental Diseases*, CI (March, 1945), 251-56.

<sup>11</sup> L. J. Robinson, "Induction of Seizures by Closing of the Eyes or by Ocular Pressures in a Patient with Epilepsy," *Journal of Nervous and Mental Diseases*, XC (September, 1939), 333-36.

1933 typifies the thinking on this aspect of the problem.<sup>12</sup> Stein reached the following conclusions:

1. Results do not justify the conclusion that the symptom complex known as epilepsy, either per se or as migraine or as any other neuropsychiatric disorder, is an inherited condition.
2. However, the higher incidence of neuropsychiatric disorders in the families of epileptics may well be explained on the basis of an existing potential or latent germ-plasm defect. It is likely that this defect or vulnerability furnishes more than usually fertile ground for the production of epilepsy by such known contributing factors as trauma, birth injury, alcoholism, etc. . . .
3. It is difficult to escape the conclusion that this germ-plasm defect or vulnerability appears in too large a proportion in the family histories of the patients, when compared with those of the controls, to be entirely accidental.

Similar findings were observed by Dixon and reported in an unpublished paper concerned with the social and emotional background of 1,000 epileptic patients admitted to the Michigan Farm Colony for Epileptics.<sup>13</sup>

### Types of Epilepsy

A number of different classifications of epilepsy have been suggested during the past few years. Thus, the different types of epilepsy have been distinguished on the basis of anatomical considerations, with reference to the cause denoted in the medical history of the subject or on a chronological basis with respect to the onset of seizures. The various clinical groups of epileptics usually include the following four: (a) The *grand mal* type or generalized seizure is frequently referred to in the literature as the somatic (body) motor group. Jacksonian epilepsy and those typified by focal convulsions are also included in this group. (b) The *sensory group* consists of symptoms involving the function of the visual, auditory, olfactory, and somatosensory systems of the body. (c) The *visceral type* includes the autonomic seizure involving internal bodily structures. (d) The *psychical group* includes petit mal, dreamy seizure states, and psychotic states. The age of onset of the seizure is also of value from a diagnostic standpoint. For example, inflammatory conditions are associated with the childhood onset of epilepsy; the idiopathic variety with adolescence; trauma or tumor with adulthood; neoplasm, trauma, or vascular disease with middle age; and cerebrovascular disease with old age.

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<sup>12</sup> C. Stein, "Hereditary Factors in Epilepsy: A Comparative Study of 1,000 Institutionalized Epileptics and 1,115 Nonepileptic Controls," *American Journal of Psychiatry*, LXXXIX (March, 1933), 989-1037.

<sup>13</sup> Robert Dixon, "The Pre-epileptic Child," from Staff Papers of the Lapeer State Home and Training School. Lapeer, Michigan: The School, 1937 (mimeographed).

### Methods of Differential Diagnosis

*The Electroencephalogram.* The electroencephalogram was first introduced by Berger<sup>14</sup> in 1929 and is referred to commonly as the brain-wave test. Typical brain-wave patterns are produced in normal records which may show specific changes under various types of pathology.<sup>15</sup> Normal brain-wave tracings have been established in all age groups by Gibbs and Gibbs.<sup>16</sup> Perhaps the most comprehensive application of the electroencephalogram has been in the study of idiopathic epilepsy. Ninety-five per cent of these patients demonstrate brain-wave abnormalities.<sup>17</sup> Even more important is the detection of cerebral disturbances in patients between episodes. Abnormal brain rhythms have been observed to vary with the type of epilepsy such as grand mal, petit mal, and psychomotor seizures.

*Other Instruments of Diagnostic Value.* X-rays of the skull may furnish valuable clues to the cause of the convulsion through such evidence as increased intracranial pressure in the presence of tumor, fractures following trauma, and other clinical observations. *Pneumoencephalography*, first described by Dandy,<sup>18</sup> consists of the injection of air or gas in the lumbar region in order to observe certain cranial features. The direct injection of air into the ventricles of the brain is known as *ventriculography*. These procedures are of value in the differentiation of the various causative agents noted above and serve to supplement the electroencephalogram. *Arteriography*, described by Moniz,<sup>19</sup> has been of value also when the suspected cause is vascular. It consists of the introduction of a radio-paque substance such as diodrast into specific arteries for the identification of cerebral vessels. *Routine laboratory data* including blood chemistry, urine examination, and spinal fluid tests are performed as indicated.

*Psychological Examinations.* Two avenues of psychological evaluation have developed recently which indicate the possibility of making a differential diagnosis of epilepsy, at least in part, on the basis of psychological

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<sup>14</sup> H. Berger, "Ueber das Elektrenkephalogram des Menschen: I, Mitteilung," *Archiv für Psychiatrie*, LXXXVII (1929), 527-70.

<sup>15</sup> F. A. Gibbs, "Electrical Activity of the Brain," *Annual Review of Physiology*, VII (1945), 427-54.

<sup>16</sup> F. A. Gibbs and E. L. Gibbs, *Atlas of Electroencephalography*. Cambridge, Massachusetts: L. A. Cummings Co., 1941.

<sup>17</sup> M. G. Peterman, "Electroencephalography in Children," *Wisconsin Medical Journal*, XLIII (July, 1944), 708-9.

<sup>18</sup> W. E. Dandy, "Roentgenography of the Brain after the Injection of Air into the Spinal Canal," *Annals of Surgery*, LXX (October, 1919), 397-403.

<sup>19</sup> E. Moniz, "L'Encephalographie Artérielle, Son Importance dans la Localisation des Tumeurs Cérébrales," *Revue de Neurologie*, II (November, 1927), 72-90.

tests. These two procedures involve (a) the use of the Rorschach test and (b) the concept of scatter and pattern analysis developed by Wechsler and Rapaport. The former has brought to light the most important insights regarding the psychological functioning and personality manifestations of the epileptic person.

Rorschach in 1921,<sup>20</sup> after studying twenty epileptics, pointed out that certain findings permitted the examiner to make a diagnosis of epilepsy. The signs which Rorschach used were: many-color responses, a tendency to confabulation, inferior judgments of value, perseveration, emphasis on symmetry, description of color, counting and naming colors, meticulousness, slowness of associations, and personal references. Oberholzer later, in 1935, stated that generally genuine epilepsy can be discriminated from traumatic epilepsy without difficulty by means of the Rorschach test. For the most part Rorschach's conclusions have been confirmed by the subsequent investigations of Guirdham,<sup>21</sup> Arluk,<sup>22</sup> and Harrower-Erickson.<sup>23</sup> Piotrowski,<sup>24</sup> however, has reported a study involving the use of the Rorschach test with epileptics, the results of which differ somewhat from those of the preceding reports. Piotrowski's findings are particularly valuable as a caution against the independent use of the Rorschach test for differential diagnosis of epilepsy apart from medical diagnosis. While he observed most of the signs which Rorschach and others have noted, he did not find them typical solely of epileptics but, rather, to some degree also characteristic of psychoneurotic and other patients with organic involvements. Piotrowski points out that "none of the tabulated signs is pathognomonic of epilepsy" alone. He further states:

The differential diagnosis between epilepsy and organic cerebral cases without convulsive seizures may not be possible (by means of the Rorschach test) in a large proportion of cases. In such cases it would be possible to determine that the personality deviation was caused by intracranial pathology, but the fact that the symptoms include convulsive seizures may not be deducible. However, if it is known that the patient is afflicted with seizures, and that the perceptanalytic findings indicate intracranial pathology, then the inference can be made that the seizures are not psychogenic but organic.

<sup>20</sup> Hermann Rorschach, *Psychodiagnostics*, p. 170. (Translation and English edition by Paul Lemkau and Bernard Kronenberg.) Berne, Switzerland: Hans Huber, 1942.

<sup>21</sup> A. Guirdham, "The Rorschach Test in Epileptics," *Journal of Mental Sciences*, LXXXI (October, 1935), 870-91.

<sup>22</sup> E. W. Arluk, "A Study of Some Personality Differences between Epileptics and Normals," *Rorschach Research Exchange*, IV (October, 1946), 154-56.

<sup>23</sup> M. R. Harrower-Erickson, "Personality Changes Accompanying Patients with Cerebral Lesions: II, Rorschach Studies of Patients with Focal Epilepsy," *Archives of Neurology and Psychiatry*, XLVII (June, 1940), 1081-1107.

<sup>24</sup> Hoch and Knight, *op. cit.*, pp. 95-106.

Wechsler<sup>25</sup> and Rapaport<sup>26</sup> have made extensive studies concerning the importance of characteristic patterns of responses given to items of intelligence tests by individuals with organic involvement. Studies by these and other authors fail to give an unequivocal answer to the question of whether or not the scatter patterns described occur in convulsive disorders alone or whether they may be found in other conditions as well. It thus seems safe to assume that while certain familiar and clinically recognized signs are observed to appear in the intelligence and personality test performance of many individuals later to be medically diagnosed as epileptic, at present the use of psychological tests with this group should be restricted to the following purposes: (a) making an initial referral to proper medical facilities for final diagnosis; (b) for corroboration of medical findings; or (c) for the continuous evaluation of the psychological changes in the individual during the course of the observed condition. It is also important to note that psychological diagnosis should be made only in conjunction with medical diagnosis.

### Characteristics of Epilepsy

Many investigations have been undertaken concerning the characteristics of epileptic individuals. The results of these studies will be discussed from the point of view of intellectual capacities and personality manifestations.

*Intelligence.* Intellectually the epileptic child is not greatly dissimilar to the nonepileptic child. If given suitable opportunity, the epileptic child has nearly the same ability to learn as has a child who is physically normal. This fact has been found to be true in a number of research studies which have compared epileptic and nonepileptic individuals. Lennox and Collins<sup>27</sup> administered a series of intelligence tests to ninety-three sets of twins. Sixty-three twins were without any history of epilepsy or brain injury, whereas thirty had a history of seizures. The authors found that the average intelligence quotient for the nonepileptic children was 108; for the epileptic children, 96.

Fetterman and Barnes<sup>28</sup> and Sullivan and Gahagan<sup>29</sup> found median

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<sup>25</sup> David Wechsler, *Measurement of Adult Intelligence*, p. 146. Baltimore: Williams & Wilkins, 1944 (third edition).

<sup>26</sup> David Rapaport, M. Gill, and R. Schafer, *Diagnostic Psychological Testing*, Vol. I, p. 48. Chicago: Yearbook Publishers, 1945.

<sup>27</sup> W. G. Lennox and A. L. Collins, "Intelligence of Normal and Epileptic Twins," *American Journal of Psychiatry*, CI (May, 1945), 764-69.

<sup>28</sup> J. Fetterman and M. R. Barnes, "Serial Studies of the Intelligence of Patients with Epilepsy," *Archives of Neurology and Psychiatry*, XXXII (October, 1934), 797-801.

<sup>29</sup> E. B. Sullivan and L. Gahagan, "On Intelligence of Epileptic Children," *Genetic Psychology Monographs*, XVII (October, 1935), 309-76.

intelligence quotients ranging from 74 to 92, indicating an ability range of the groups between high-grade mental retardation and low average intelligence. Baker reports that the majority of epileptic children enrolled at the White Special School in Detroit during the period from 1937 to 1940 had intelligence quotients between 70 and 99.<sup>30</sup> Lennox<sup>31</sup> reaches practically the same conclusion in a study of 4,958 epileptic patients admitted to the Craig Colony in New York State over a fifteen-year period. Falk, Penrose, and Clark,<sup>32</sup> among others, point out evidences of the educability of epileptic persons.

*Personality.* The patient's personality modifies the manifestations of epilepsy to some degree, as it does in other diseases of an organic nature. The literature contains no evidence in support of the view that epileptic seizures are a concomitant of any specific personality structure. One writer asserts: "There is no such thing as an epileptic personality that is specific for epilepsy."<sup>33</sup> The seizure may occur in all personality types and is a respecter of none. The so-called "epileptic personality," referred to frequently in popular periodicals, if present, seems to result from the same factors which produce personality manifestations in persons with other forms of organic brain damage, i.e., the changes in cortical tissues of the brain produce personality traits which are not restricted to the epileptic child alone but which, to a large degree, characterize all individuals with brain damage. Frequently, outstanding personality traits may be observed in the epileptic child. However, if present, they need not be the direct result of the seizure but may be the indirect result of the patient's attempts to deal with increased problems of adjustment which he as an individual senses.

Bleuler<sup>34</sup> feels that a spontaneously uneven and erratic type of mental activity is one of the outstanding characteristics of the epileptic child. He observed a wave-like, waxing and waning flow of ideas which were independent of attention fluctuations caused by fatigue and which were not specifically associated with the difficulty of the problem with which the epileptic was confronted. Harrower-Erickson<sup>35</sup> says that the person-

<sup>30</sup> Harry J. Baker, *Introduction to Exceptional Children*, p. 306. New York: Macmillan Co., 1945.

<sup>31</sup> W. G. Lennox, "Mental Defect in Epilepsy and the Influence of Heredity," *American Journal of Psychiatry*, XCVIII (March, 1942), 733-39.

<sup>32</sup> R. Falk, L. S. Penrose, E. A. Clark, "The Search for Intellectual Deterioration among Epileptic Patients," *American Journal of Mental Deficiency*, XLIX (April, 1945), 469-71.

<sup>33</sup> Jerry C. Price, "The Approach to Providing Service to the Epileptic," *Journal of Rehabilitation*, XII (October, 1946), 5-9.

<sup>34</sup> E. Bleuler, *Lehrbuch der Psychiatrie*. Berlin: J. Springer, 1930.

<sup>35</sup> Harrower-Erickson, *op. cit.*

ality of the epileptic child is affected by the way in which the convulsions are incorporated into his normal experiences by the child himself. Other authors have observed traits of moodiness, egocentricity, rigidity, meticulousity, organic pedantry, sudden outbursts of temper, perseveration, tendency toward cruelty, desire for affection, expressions of anger out of all proportion to the cause, and other similar personality manifestations in epileptic children. The age of onset of the seizures determines in part both the degree of intellectual impairment and the extent of the personality disturbance which may be developed. Usually, the earlier the onset of the seizures the more pronounced the intellectual deterioration and the more evident the personality disturbances.

### Programs of Education

For many years public schools have accepted epileptic children, some of whom have experienced seizures in school. The Detroit Public School system was among the first to undertake the education of the epileptic child within the framework of a public school program. Numerous programs for the education and care of the epileptic in state hospitals and farm colonies had antedated the Detroit venture. The latter program, eventually to be located in the White Special School, was opened in January 1935. In this special school the children were originally housed from Monday morning through Friday afternoon, but after 1939 the hospital plan was abandoned and the children were transported daily by school bus. While the number of seizures which occurred among the children during transportation was at first significant, they were greatly reduced during subsequent years until, at the present time, the seizure during transportation is not a disturbing problem. The program for the education of epileptic children today is not significantly different from that which should be provided for all children. No special methods or materials are used save the best of those which would be used with children in any regular or special grade. The continuous evaluation of the suitability of the educational program to the needs of the epileptic child is, however, warranted. All epileptic children receiving any form of instruction should have competent psychological examinations at least once a year. Mental deterioration should automatically require revision of the curriculum being provided for such a child. In the Detroit school a nurse is in attendance continually at the school, and medical attention is available. A number of other public school systems in the United States have provided similar programs for the epileptic.

The epileptic child, if intellectually capable of benefiting from education, should be accepted into the school program. Studies cited above show that the majority of the epileptic children can profit from a program



of instruction. However, a report prepared by Lennox, McBride, and Potter<sup>36</sup> disclosed that in 1,676 schools of higher education in the United States and Canada there was only one epileptic in each group of 2,000 students enrolled. Fifty-five per cent of the schools replying to the inquiry have no rule regarding the acceptance of epileptics, 27 per cent admit them conditionally, and 18 per cent deny them admission. It would appear that higher education of epileptics is apparently influenced by popular prejudice, misinformation, and fear; whereas, discriminating judgment with respect to each case on its merits would doubtless encourage many others to enter college.

The question of whether or not the child should be segregated into a special school or class or whether he should be admitted to a regular class with nonepileptic children has not been conclusively investigated. Some authorities feel that the epileptic child should be segregated into a special class within the public school program wherein his particular physical needs can be met. Medication, it is said, can be carried out much more readily if all such children are in a central location. Provision can be made for rest and recovery after seizures without the child's status being threatened if the children with epilepsy are grouped together. On the other hand, other investigators feel that with the discovery of new drugs and with complete co-operation of local medical groups, many epileptic children can be educated in the normal classroom situation. Such provisions must include the careful education of the remaining children in the grade group regarding the needs of the epileptic child. In connection with both plans for the education of epileptics, a thorough understanding by parents and teachers of the impact of epilepsy on the social and emotional adjustment of the child is most important.

Whenever a teacher, principal, or superintendent of a school becomes aware that a child may be epileptic, the school authorities must be provided with adequate and reliable diagnostic information. The medical officer should be responsible for seeing that an accurate diagnosis is made and, together with psychological and psychiatric counsel, should determine whether or not the child is physically fit to continue in school. It is, of course, important to protect both the afflicted child and his classmates against unnecessary interruption to the educational program. The appropriate administrative policy is reflected in the following statement:

If either medical or psychological examination leads to a decision that a child should be excluded from school, temporarily or permanently, educational officials should accept and abide by this recommendation, subject, however, to additional

<sup>36</sup> W. G. Lennox, M. McBride, and G. Potter, "The Higher Education of Epileptics," *Epilepsia*, III (September, 1947), 182-97.

medical evidence which would justify a change in ruling. . . . The occurrence of epileptiform seizures per se should not necessarily exclude a child from school unless their frequency, severity or duration interferes with the regular work in class.<sup>37</sup>

It is well for teachers to be aware of the fact that great differences are present among epileptic children. Not only are all the commonly recognized individual differences observable in epileptic children but differences in the extent of the influence of the epileptic symptoms are also present. Some children have very frequent attacks; some have attacks only infrequently. Some who have infrequent attacks present greater personality disturbances and more continual behavior manifestations than do those who have frequent but milder seizures. It should also be recognized that some children who are under medical care will continue to experience seizures. If, because of the frequency, duration, or severity of the seizure the child is unable to continue in school, he will frequently be able to benefit from home teaching which can be carried on as a part of the regular school program. The school's obligation is to provide an educational opportunity for the epileptic child either within its day school facilities or within a special class or through individual home instruction.

#### Sources of Information Concerning Epilepsy

In recent years several national and state associations have been organized to disseminate information concerning epilepsy and to serve as centers for the distribution of authoritative materials on the problem of epilepsy. The National Association to Control Epilepsy, Inc., chartered by the University of the State of New York, was established recently at 22 East Sixty-seventh Street, New York City. One of its prominent features is the maintenance of the Baird Foundation Clinic which began operation in 1944. The clinic makes a total approach to the epileptic child, first medically helping the child to control his seizures, then assisting him to make the most of his abilities in social adjustment and vocational success. State affiliates of the National Society for Crippled Children and Disabled Adults, Inc., have recently become interested in the epileptic child. Such state associations as the Ohio Society for Crippled Children and Adults, Inc.; the Pennsylvania Society for Crippled Children and Adults, Inc.; and the Tennessee Society for Crippled Children and Disabled Adults, Inc., are examples. The American Epilepsy League, Inc., a branch of the International League against

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<sup>37</sup> The Committee for the Study of the Care and Education of Physically Handicapped Children in the Public Schools of the City of New York, *Report of the Subcommittee on Epileptic Children*, p. 59. New York: Board of Education, 1941.

Epilepsy, is also active in this field and, as one of its services, publishes a valuable periodical, *Epilepsia*.

## TUBERCULOSIS IN CHILDREN

### Nature of Tuberculosis and Magnitude of the Problem

Tuberculosis is an infectious disease caused by the tubercle bacillus to which all body tissues are potentially vulnerable, although it is the lungs which are most commonly involved. The disease is one which appears in all areas of the world. In civilized countries the bacillus is so ubiquitous that almost every individual is infected prior to adulthood. Fortunately, this infection is ordinarily so light that an effective resistance is developed. The occurrence of the disease in activated form during adolescence or adulthood is usually a result of such factors as the lowering of normally developed resistance due to malnutrition, fatigue, other diseases, or infections. Such cases can be arrested and made quiescent.

While tuberculosis is essentially a disease of early adulthood, infancy is recognized as the most susceptible age for its inception. In spite of the fact that the tuberculous infection has been reduced significantly during early infancy, approximately 5 per cent of the children born each year in the United States may be handicapped to some extent by the early start of the morbid process. It is estimated that between 15 to 20 per cent of preschool and elementary-school children and between 30 to 50 per cent of high-school, college, and university students react positively to a tuberculin test showing that at one time or another in their lives they have experienced an episode of active tuberculosis. The incidence of tuberculosis varies greatly with racial and social status. The death rate in 1930 for unskilled workers was 185 per 100,000; for skilled workers, 72; for professional people, 26. The death rate for Negroes from tuberculosis is approximately 3.5 to 4 times as great as for the white population. The disease fluctuates geographically also as can be seen in the death rate for white residents of San Antonio, Texas, which was 162 per 100,000 persons; for white residents of Akron, Ohio, 31 per 100,000 persons; of Cincinnati, Ohio, 62 per 100,000.<sup>88</sup>

### Diagnosis and Treatment

The diagnosis of tuberculosis in school-aged children is chiefly a medical problem, but it is one which demands the full co-operation of school personnel. The school can assist medical personnel in providing routine physical examinations of all children on a yearly basis. The school nurse or nurse-teacher will be the agent of the educational staff to serve most actively in this program, but the success of the undertaking will rest

<sup>88</sup> *Clinical Tuberculosis*. Edited by B. Goldberg. Philadelphia: F. A. Davis, 1942.

upon the entire school faculty. Surveys for tuberculosis will usually take the form of X-ray examination together with general medical examination and tuberculin tests. Treatment, for those cases which are discovered, is again a medical problem, the education program depending upon the decision of the responsible medical officer. The presence of tuberculosis in children requires that each case be handled as a separate problem because children with pulmonary tuberculosis may transmit the disease to other children. It is frequently necessary that immediate segregation of the pulmonary cases be effected.

### Programs of Education

Once a diagnosis is completed, the education of the tuberculous child, while always a responsibility of the public education program, will be conducted under medical supervision in hospital schools or special classes or through home-teaching programs. The nature of the tuberculous condition in each child will govern the amount of physical and mental activity to be permitted. For this reason the educational and occupational therapy programs will, while extraordinarily important, remain secondary to the child's physical needs and will be prescribed by the physician. There is, however, no reason to segregate children into special classes for instruction if it is medically determined that such children are non-infectious and are physically well enough to assume the regular routine of the public day school. There are certain basic principles which must be evaluated in teaching all handicapped children. The relative good of relieving the child from the stress of competition of groups of physically well children must be weighed against the possible psychological harm which may be done by segregating them into small groups having similar physical handicaps. With this caution in mind and with the knowledge that most tuberculous children will have to be segregated, the importance of providing a healthy psychological environment for the child in the segregated situation and of providing a realistic educational program becomes paramount.

It is known that periods of prolonged convalescence and rest frequently provide opportunity for too much introspection and that psychological maldevelopments often result. It is also known that for the tuberculous child quiet, rest, and relaxation which involve long periods of convalescence are required in order to arrest the disease. The educational program which is provided must be formulated with this conflicting situation in mind. Activities should be made available which are within the threshold of tolerance of the child from a physical point of view and, yet, which are challenging enough to keep him interested and psychologically positively active. This is particularly important, if, as has been

said, "all behavior, without exception, is completely determined by and pertinent to the phenomenal field of the behaving organism."<sup>39</sup> With basic human needs remaining unsatisfied, these unsatisfied needs become dynamic factors in the phenomenal field of the convalescing tuberculous child and become factors which force the child into adjustments which are unsatisfactory from the point of view of his self concept and which are maladjustive from the point of view of society.

Educational programs must be provided for nonhospitalized children who are not well enough to participate in all the activities of the regular school. The subcommittee on the education of children with tuberculosis in the New York City public schools reported that noninfectious children who are able to attend school but who are not able to engage in the full program should be placed on a lightened schedule in the public schools.<sup>40</sup>

Programs which include increased rest and restricted activity have been successfully tried in Boston, Massachusetts, and South Bend, Indiana. These programs have been found preferable from a psychological point of view, as well as from the standpoint of financial economy, to that of prolonged periods of hospitalization pending arrest of the disease process.

Home teaching will be indicated for those tuberculous children who seem in danger of progression or who require more rest and restriction than can be provided conveniently under the school program. Bedside teaching in the home will serve to maintain the interest of the child in his recovery and will assist him to maintain a healthy psychological concept. Such teaching is particularly important in assisting adolescent children to begin immediate treatment while awaiting admission to a hospital or sanatorium.

### The Behavior of Persons with Tuberculosis

The research which is available on the personality adjustment of individuals with tuberculosis is very meager, particularly research which has been undertaken and has used acceptable standards of scientific investigation. The most complete analysis of such research was that undertaken by Barker, Wright, and Gonick.<sup>41</sup> On the basis of their investi-

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<sup>39</sup> Donald Snygg and Arthur W. Combs, *Individual Behavior: A New Frame of Reference for Psychology*. New York: Harper & Bros., 1949.

<sup>40</sup> Committee for the Study of the Care and Education of Physically Handicapped Children in the Public Schools of New York City, *The Education of Children with Tuberculosis*, p. 12. New York: Board of Education, 1941.

<sup>41</sup> R. C. Barker, B. A. Wright, and M. R. Gonick, *Adjustment to Physical Handicap and Illness: A Survey of the Social Psychology of Physique and Disability*, p. 130. Bulletin 55. New York: Social Sciences Research Council, 1946.

gation of the research in this aspect of the field, they arrived at the following conclusions:

1. A great variety of behavior is exhibited by tuberculous persons; there is no unique tuberculosis behavior.
2. There are indications that some kinds of behavior are more frequent than in healthy populations, although exactly comparable data are not available.
3. Anxiety, mild neuroticism, neurasthenia, and discontent are frequently found.
4. Euphoria is infrequently reported, and when it is, investigators question whether it is genuine or in the nature of a protective mechanism.
5. Data on the sex drive are inadequate; what there are do not support the theory of increased sex drive.
6. The evidence upon intelligence gives no indication that tuberculosis has a regressive effect; the bulk of the data supports the tentative hypothesis that tuberculosis may be associated with a slightly increased level of intellectual functioning.

Minor,<sup>42</sup> Brown,<sup>43</sup> Banister,<sup>44</sup> and others have noted additional factors which are important in considering the adjustment of tuberculous children. Kramer's recent discussion of this problem is very penetrating. The psychopathology of the tuberculous child, according to Kramer, does not essentially differ from that of children who are not tuberculous. The "development of psychopathological symptoms does not usually rest with the morbid process itself but with the attitude the child learns to take toward it."<sup>45</sup> As with most physically handicapped children, the personality integration or disintegration of the tuberculous child will depend to a large extent upon the child and the adults in the situation. Kramer points out a truism which applies to all groups of children that "overprotection and overindulgence" of the tuberculous child "will produce emotional and mental immaturity which is especially harmful to a young individual who is confronted with the danger of physical handicap and a lack of communal socialization." These factors constitute real reasons for careful educational and psychological planning in an attempt to meet the needs of the child with tuberculosis.

#### DISORDERS OF GLANDULAR FUNCTION AND GROWTH

The psychological and educational significance of extreme variations in physical growth has not received the same amount of consideration as has

<sup>42</sup> C. S. Minor, "On the Psychological Handling of the Tuberculosis Patient," *American Review of Tuberculosis*, II (October, 1910), 459-69.

<sup>43</sup> L. Brown, "Mental Aspects in the Aetiology and Treatment of Pulmonary Tuberculosis," *International Clinics*, III (1933), 149-74.

<sup>44</sup> H. Banister, "Psychology and the Tuberculous," *Journal of State Medicine*, XXXIX (1931), 267-74.

<sup>45</sup> H. C. Kramer, "Psychopathology of Childhood Tuberculosis," *Nervous Child*, VII (1948), 102-14.

been given to the other types of physical handicaps which have been longer recognized by medical, psychological, and educational research workers. Research concerned with the physiological aspect of the problem is voluminous, and considerable understanding of the relationship between glandular function and growth is to be seen. On the other hand, research concerned with the psychological implications of physiological disorders which result in growth dysfunctions is sparse. Moreover, it is doubtful that the findings of the few studies which are available give a true picture of the actual situation.

### Causes

*Endocrine Glands.* The importance of the endocrine, or "ductless," glands in the life of the human organism has been known for many years. Within the recent years of modern medicine there has been a growing recognition of their influence on physical growth, intellectual development, and emotional stability in human beings. The endocrine glands dispense their products directly into the blood stream, for the most part in the form of *hormones*. An example of such a hormone is *insulin*, which is produced in the digestive gland, the pancreas. The glands which are now known to produce hormones are the pituitary, thyroid, parathyroid, adrenals, pancreas, ovaries, testes, stomach, and intestines. Other organs which possibly exert the same influence as the ductless glands and have endocrine functions are the thymus, pineal, liver, spleen, and heart. The hormones produced by these organs individually and collectively exert a tremendous influence on the functioning of the total organism, not only on a physiological basis, but on a psychological basis as well.

The most common disturbances of the thyroid gland observed in children include colloid or simple goiter, hyperthyroidism, and hypothyroidism. The colloid condition is now seldom seen in children due to the almost universal use of iodized salt.

*Hyperthyroidism* is relatively common during the adolescent period. It is characterized by loss of weight and strength, palpitation, nervousness, and increased appetite. Objectively, there is a fine tremor of the hands, increased perspiration, and an elevated basal metabolic rate. Medical management is always indicated. *Hypothyroidism* or *myxedema* may occur in childhood and is due to a diminution or absence of thyroxine, the secretion from the thyroid gland. This may occur as a result of the atrophy or the removal of the thyroid gland. It is characterized by a low basal metabolic rate, tissue changes, diminished physical and mental activities, and a characteristic facial expression. Since the deficiency occurs during the developmental period, there may be gonadal changes; puberty may be delayed with subsequent impairment of the menses; delayed develop-

ment of the cranial bone structures, or even dwarfism may be a result. Cretinism, due to congenital maldevelopment of the thyroid gland, is now relatively rare, and the clinical picture of this condition is quite different from that of acquired hypothyroid deficiency which has been described by Benda.<sup>46</sup> A medical problem, deviations in the function of the thyroid require prolonged administration of thyroid preparations to insure adequate physical growth and intellectual development in all deficiency states.

Disorders of the *pituitary gland* may take the form of *hypopituitarism* and *hyperpituitarism*. In the former, complete absence of function may occasionally occur with resulting retardation of growth, impaired gonadal function, lowering of the blood pressure, and other functional changes. Pituitary dwarfism may be included in this group and may be associated with impairment of thyroid function and of sexual development. Frohlich's syndrome is more common and is characterized by obesity, delayed puberty, and abnormal secondary sex characteristics. Hyperpituitarism, resulting occasionally in gigantism or a tendency toward gigantism, is due to the presence of certain pathological factors in the pituitary gland prior to the closing of the epiphyses during the normal course of physical growth. Frequently coupled with this condition may be factors generating from thyroid gland disturbances. A similar condition arising after puberty has been reached is called *acromegaly*. X-ray therapy or surgery is frequently indicated. Deficiencies associated with malfunction of the pituitary gland may be treated by medical personnel with suitable substitution therapy.

Dysfunction of the *gonads* in males may result in *hypergonadism* and *hypogonadism*. The former is rarely encountered in clinical practice, but the latter is relatively common. The primary type is due to a local defect in the testis, the most common example being eunuchoidism. If hypogonadism occurs prior to puberty, one may expect increase in length of the extremities, vocal changes, and impairment of secondary sexual characteristics. Although stimulation therapy has not been uniformly successful, chorionic gonadotropin has been of some value in treating the condition medically. The most common type of secondary hypogonadism is Frohlich's syndrome mentioned in connection with hypopituitarism. With regard to females, hypofunction corresponds to similar dysfunction in the male. In both instances early diagnosis is important in order that substitution therapy can be immediately instituted.

*Undernourishment and Malnutrition.* The estimate that there were 6,000,000 malnourished children in this country in 1930<sup>47</sup> brings the prob-

<sup>46</sup> C. E. Benda, *Mongolism and Cretinism*, pp. 38-50. New York: Grune & Stratton, 1946.

<sup>47</sup> "White House Conference on Child Health and Protection," *Special Education: The Handicapped and the Gifted Child*, p. 5. New York: Century Co., 1930.



lem of the undernourished and malnourished child to the attention of both the medical and the educational professions. This is the largest group among the commonly observed types of exceptional children. Undernourishment thus becomes one of the pressing problems with which the schools are continuously concerned. Malnutrition not only has a detrimental effect on growth in young children, as has frequently been seen in the results of World War II, but also has an important effect on growth in older children who experience changes in food intake during the growth process. While the problems of undernourishment are practically universal in the United States, certain geographical areas show greater rates than others, and in some areas specific causes of malnourishment can be traced to prevalence of localized parasitic agents. For example, *hookworm*, a common cause of malnutrition, is particularly common in the southern parts of the country and in those areas wherein there is heavy precipitation. Children are most commonly infected by hookworm, although the disease is found in persons of all ages. *Malaria*, particularly when found in children, is an important causative factor in malnutrition. *Ascariasis*, a parasitic disease which springs from the soil and which first develops in the intestinal tract, is also one which is found most frequently in the south and which is closely associated with malnutrition. The causes of malnutrition are exceedingly numerous, the three selected for mention here serving only as examples.

With an adequate medical diagnosis, appropriate educational programs for undernourished children can readily be developed within the framework of the public schools. Special classes for children with lowered vitality are to be observed in several large public school systems. Sometimes these are called *fresh-air classes*, *open-window classes*, or by other designations, but always their goal is to provide an educational program supplemented by rest and nutritive feeding that will make it possible for the pupil to function within the limits of normal childhood living.

#### Somatopsychological Significance of Disorders of Physical Growth

Barker states that "while there is evidence of weak relationships between physical measures of physique and personality and social behavior (relationships that are by no means negligible), methodological shortcomings make it doubtful if this is a true picture of the situation."<sup>48</sup> The impact of physical disorders on the developing personality of children and youth has been pointed out by a number of writers.<sup>49</sup> and is evidenced

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<sup>48</sup> Barker, Wright, and Gonic, *op. cit.*, p. 21.

<sup>49</sup> W. M. Cruickshank, "The Impact of Physical Disability on Social Adjustment," *Journal of Social Issues*, IV (Fall, 1948), 78-83.

by such nonobjective sources as is contained in the attitudes expressed by society to differences which are apparent in the physical characteristics of specific individuals. Bruch,<sup>50</sup> Levy,<sup>51</sup> Bronstein,<sup>52</sup> and Olson<sup>53</sup> present data to show the effect of changes in physical growth on the psychological development of the individual.

The treatment of such individuals may involve medical therapy in the case of endocrine disturbances such as have been noted, or it may involve only the careful observation of the child to ascertain the growth changes indicative of normal development that are being experienced. The educational program must take cognizance of the reason for any growth disturbance observed, must be contributory to the psychological orientation of children who are experiencing such disturbances, and must provide an atmosphere in which the child may adjust to the limits of his capacity and be permitted to benefit from the medical therapy which is being employed.

#### NEEDED RESEARCH

Research of a truly scientific nature which deals with the educational and psychological development of epileptic children, with tuberculous children, and with those who have experienced dysfunction of endocrine glands is greatly needed. Particularly needed are studies which have to do with psychological therapy of a group or individual nature that will guide such children to a type of personality integration that will enable them to realize the maximum benefit from educational opportunities available to them. Because each type of exceptional child requires medical supervision, whatever research is undertaken should be carried out as a co-operative study with medical personnel in order to determine the influence of both medical and psychological therapies in childhood adjustment. Controlled studies to determine the most satisfactory procedures to be used in the education of epileptics in the public schools are indicated; studies which are geared to the development of more adequate programs of education and mental hygiene for the tuberculous child during convalescence are needed; and growth studies which carefully note personality changes in children undergoing glandular therapy need to be undertaken.

<sup>50</sup> Hilde Bruch, "Obesity in Childhood and Personality Development," *American Journal of Orthopsychiatry*, XI (July, 1941), 467-74.

<sup>51</sup> D. M. Levy, "Aggressive-submissive Behavior and the Frohlich Syndrome," *Archives of Neurology and Psychiatry*, XXXVI (November, 1936), 991-1020.

<sup>52</sup> I. P. Bronstein, S. Wexler, A. W. Brown, and L. I. Halpern, "Obesity in Childhood: Psychologic Studies," *American Journal of Diseases of Children*, LXIII (February, 1942), 238-51.

<sup>53</sup> See chapter iv of this volume.

## CHAPTER XIII

### SPECIAL EDUCATION FOR THE MENTALLY HANDICAPPED

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The problem of the child with retarded mental development assumes considerable importance in the general program of education. Administrators as well as teachers are becoming increasingly concerned about those pupils who find it difficult to profit from the program provided for normal groups. In the absence of special provisions for the mentally handicapped, the problem becomes acute because the school curriculum, generally, is not adapted to the needs and abilities of these pupils. Many schools are not organized to serve the exceptional needs of backward pupils, due to overcrowded classrooms and lack of equipment and materials necessary for the functioning of a well-designed program for such pupils. Teachers do not always have the training which would enable them to distinguish between a slow learner and a discipline case. School administrators also are sometimes lacking in the power to guide and direct the classroom teachers in the techniques of gearing their programs to the needs of children of different levels of ability.

#### CLASSIFICATION OF THE MENTALLY HANDICAPPED

In the past there has been considerable confusion as to what constitutes mental deficiency. Professional thinking today accepts the criteria Doll has suggested as the guides for an acceptable definition of mental deficiency. His definition is as follows:

Mental deficiency is a state of social incompetence obtaining at maturity, or likely to obtain at maturity, resulting from developmental mental arrest of con-

stitutional (hereditary or acquired) origin; the condition is essentially incurable through treatment and unremediable through training except as treatment and training instill habits which superficially compensate for the limitations of the person so affected while under favorable circumstances and for more or less limited periods of time (14: 217).

The appropriate designation to be given to the group which stands between the mentally deficient and the normal is still a question. They are frequently referred to as the "slow learners." The classification of pupils in the early stages of school experience is important so that each individual may more readily learn to respond to selective social treatment and educational training. As a practical procedure, the school might well be guided by the following criterion in determining those who will be classified as mentally handicapped: pupils who are found by competent examiners to have potentialities which will enable them to respond to the advantages of a special-education program designed to assist them in their efforts to succeed in the home, the school, and the community. The mentally retarded child is more seriously handicapped than the slow learner and requires the advantage afforded by a carefully planned program such as is provided in a well-organized special class. The slow learners, although less seriously handicapped than the mentally retarded, usually find the traditional type of school program too difficult to handle without some modifications of the program to adjust requirements to their normal capacity for achievement.

#### DISCOVERING THE MENTALLY HANDICAPPED

Teachers may well serve as the key people in evaluating the reactions of their pupils, educationally and socially. Many teachers must first be oriented in the initial steps of critically gauging individual pupil progress with reference to the progress of the group as a whole, individual adjustment as compared with the maturational level expected of pupils of a given age, and individual physical efficiency which should be manifest for definite pupil-age groupings.

Disregarding physical disabilities or emotional maladjustments as factors in educational retardation, the second step is the application of a group intelligence test. This test should be judiciously selected; it should suit the purpose in every way. Many teachers, oriented as indicated in the preceding paragraph, are able to administer these tests themselves. They may, however, require guidance in the selection of the test and assistance in the adequate evaluation and proper utilization of the results for purposes of classifying the pupils and making their programs.

The educational and physical cumulative records can serve as helpful guides in making these comparisons and in establishing a basis for further

and more extensive exploration. Brief case-studies which include pertinent data on the background of the individual pupil are also of great assistance.

Some of the specific characteristics which may be noted in determining pupil maladjustment are as follows:

1. Educational
  - a. He is not able to think abstractly or to handle symbolic material.
  - b. He is significantly below the level of most children of his age in school efficiency.
2. Social
  - a. He may react to his educational inefficiency by social misbehavior.
  - b. He indicates a definite immaturity by his nonacceptance of personal and social responsibilities.
3. Behavioral
  - a. His slow learning may be manifested by poor co-ordination and lack of flexibility or adaptability. Sensory defects in the visual, auditory, or motor areas may be concomitants of his slow-learning ability.

When the findings on the survey test of individual pupils corroborate the school record of educational maladjustment, which was noted in the first instance, an individual psychological examination by a qualified psychologist is indicated. The clinician must be briefed on the pupil before the examination takes place. This the teacher can do by competently completing the referral blank with concise and meaningful information which will greatly assist the examiner in establishing rapport with the pupil to be examined and in evaluating his test performance. A competent psychologist is the proper one to diagnose the pupil as educable or uneducable. He alone is equipped to classify the pupil as mentally deficient, mentally handicapped, or slow learning. It is his responsibility to recommend how the educational program shall be structured and how it shall be implemented for the ultimate development of the child.

#### CHARACTERISTICS OF THE MENTALLY HANDICAPPED

The characteristics of the mentally handicapped found in either a metropolitan area or rural community are usually of the same composition, potentially speaking. Sometimes, in performance, these characteristics are reflected in patterns of behavior which appear to cast doubt upon the original diagnosis of mental retardation. Then again the reverse is true, and the mentally retarded individual performs below the level of his classification. Both of these situations are due to two groups of factors: one inherent in the individual, and the other contained within the environment.

Considering first the personality factors, we note behavioral evidences

of forces which direct the individual to the attainment of physical well-being; to the achievement of mastery and success; to the securing of recognition, respect, and approval; and to the realization of being wanted, of being loved, and of belonging. These forces or drives merit consideration here in so far as they influence the behavior of the handicapped individual. Questions immediately arise as to how to insure for those with retarded mental development the acquisition of properly selected drives. In normal individuals they are to be realized on the basis of socially acceptable selections, not according to the choices which the individual personally prefers or considers desirable. Therefore, the satisfaction of individual drives is achieved to the extent that they are socially acceptable and contribute both to the individual's development and to the advancement of the welfare of all individuals.

Second, when environmental influences are observed as being restrictive and encrusting, all individuals are, to varying degrees, negatively affected. In such situations, some mentally handicapped individuals seem duller and more retarded than they really are. By the same token, an environment which is overstimulating and demanding will not only speed up the tempo of normal individuals so that required demands may be satisfied but will likewise spur the mentally handicapped in their efforts to make necessary behavioral adjustments. Under such environmental stimulation, the normal individual may be able to adjust and to manage himself acceptably, whereas the mentally handicapped more often than not will become disorganized and dislocated. The unsatisfactory performance of the mentally handicapped individuals is attributable to the fact that they lack the flexibility and the reserve power needed to combat heavy restraints, sudden changes, or undue pressures.

The explanation of the variable pattern of behavior of individuals of different levels of intelligence is to be found in the efficiency of functioning of the individual's intellectual capacity. However, defect of intellectual capacity and intellectual functioning is observable in varying degrees, and variability may be related to the areas of activity in which the mentally handicapped participates. This fact is particularly high-lighted in the developing school years of the child since educational achievement is a major consideration in the clinical observation of pupil characteristics. During this period, the individual patterns of learning reveal more about the child as a whole than any other observable characteristics since the major portion of the child's experience is related to school activities. Caution must be exercised in prognosticating the over-all efficiency of the mentally handicapped when the framework for individual action is thus circumscribed. The problem of guidance is a weighty one for the educator, since the effectiveness of a school program which adequately taps the in-

tellectual potential of the individual and properly molds this potential is dependent upon skilful school-planning.

In the field of physical education, where achievement in competitive sports is so important to young people, the problem of guidance for the mentally handicapped in the acceptance of a subordinate role or an inferior rating is a very real problem. This is particularly true when the handicapped more nearly approach their normal competitors in physical than in other attributes. The contrast between the normal and the mentally handicapped is due, for the most part, to the fact that the former group experiences an automatic adjustment of natural physical extensions as a normal phase of the growth process. The latter group must actually work toward such adjustments, sometimes approaching the accepted goals but seldom attaining them completely.

In the realm of emotions, it is generally believed that the mentally handicapped experience the same feelings as do normal individuals. Here the likeness terminates, however, since the expression of emotional reactions is dependent upon the capacity for intelligent response to a problem situation. Even the more stable individuals of this group require an intensive program of guidance in emotional adjustment. The direction of this guidance depends not only upon the status of the individual himself but also upon the nature of environmental influences. The guidance program for such pupils requires an intensity of application of properly chosen adjustment measures, since experience has indicated that without consecutive, effective guidance the mentally handicapped fall prey to influences which lead to lives of disservice and maladjustment.

#### EDUCATIONAL PROVISIONS FOR THE MENTALLY HANDICAPPED

##### Feeble-minded

When a child is found to be uneducable, i.e., unable to profit or adjust to the offerings of the public school program because of extremely low mental ability, he is usually excused or excluded from further public school attendance.

There is, however, a group of educable boys and girls temporarily classified within this area who are sociably feeble-minded. This group is to be differentiated from those permanently classified as feeble-minded. Broken homes and unfavorable environmental influences are factors which may temporarily interfere with the social adjustment of mentally deficient children. They are usually committed to residential schools where a well-conceived program of guidance skilfully administered can frequently effect a satisfactory degree of social adjustment.

The educational provisions for those boys and girls falling into this temporary classification must be as carefully planned as for those who are

in special classes in the public schools. The opportunity for greater integration, on a residential basis, of everyday experiences with school programming is greatly enhanced. In fact, school programs in residential schools might well point the way experimentally for the development of more successful educational programs for all types of mentally handicapped children.

### Mentally Retarded

The large incidence of mental retardation in a metropolitan area eradicates many of the problems which beset the educational planning for this group in a smaller community. First, the need is more readily recognized in the larger community because of the greater incidence; and, second, since the planning can be done on a broad, rich, co-ordinated basis, the program is not isolating. When provisions for this group are planned with vision and thoughtfulness, the psychological barriers erected against such programming are never long lived.

The educational provisions, then, for the mentally retarded, in any area, should be clear-cut in organization, in administration, and in supervisory direction. The physical appointments for housing must be as good in selection as for the regular school, if not better. The necessary school fixtures in the blueprint of construction should be modern and complete in every detail. The educational equipment, indicated as necessary for the fulfilment of the goals of the curriculum, should be readily available.

The type of organization which is rapidly becoming common practice, whether in a large or small community, is effected according to a plan approved by competent authorities. In the larger community the population is so concentrated that the pupils are accommodated in special classes in their own school districts, at least during the elementary-school years, and thereafter are assigned to a prevocational or junior high school program as their needs demand. The smaller community adheres to a regional type of planning for special classes on the elementary- and secondary-school levels.

Organizational planning on a district or regional basis for special classes based on a general 6-3-3 school plan follows the outline as presented below:

#### 1. *Classes for the Mentally Handicapped in Elementary Schools*

I.Q. Classification: 50-79

##### a. One-room Unit

Primary and Intermediate Group

Chronological ages: 7 yrs. to 11 yrs. 11 mos.

##### b. Two-room Unit

Primary Group

Chronological ages: 7 yrs. to 8 yrs. 11 mos. or 9 yrs. 11 mos.

Intermediate Group

Chronological ages: 9 yrs. or 10 yrs. to 11 yrs. 11 mos. or 12 yrs. 11 mos.



## 2. *Prevocational Schools for Mentally Handicapped*

### I.Q. Classification: 50-79

- I. (Exploratory)    Section A: 12 yrs. to 13 yrs. 5 mos.  
                              Section B: 13 yrs. 6 mos. to 14 yrs. 5 mos.  
                              Section C: 14 yrs. 6 mos. to 16 yrs.
- II. (Intermediate) Section A: 12 yrs. to 13 yrs. 5 mos.  
                              Section B: 13 yrs. 6 mos. to 14 yrs. 5 mos.  
                              Section C: 14 yrs. 6 mos. to 16 yrs.
- III. (Vocational)    Section A: 12 yrs. to 13 yrs. 5 mos.  
                              Section B: 13 yrs. 6 mos. to 14 yrs. 5 mos.  
                              Section C: 14 yrs. 6 mos. to 16 yrs.

After the age of 12 years or 12 years 11 months is attained, one of the avenues open for the further development of the mentally retarded is placement in a prevocational school. This is advocated if the individual is more inclined toward a program of activities. This type of organization, divided into three sections, has many advantages. Many mentally handicapped pupils enter the program of special education after they have attained the chronological age of twelve. They are nonreaders. Such a situation sometimes prevails among those advancing from the elementary special classes. This may be due to either of two factors, one being attributable to low intellectual ability, another to the presence of an aggravated emotional condition in the individual.

The groupings are based on chronological age and academic achievement. The low or nonachievers, during their prevocational school life, proceed horizontally in organization in the Exploratory Division (through Exploratory B and Exploratory C). When underachievers of higher intellectual ability develop academically, they are moved on to the Intermediate Division. If their peak of academic achievement is reached in this division, they also proceed horizontally through Intermediate B and Intermediate C. Some others, who start as academic underachievers in the Exploratory Division, though being in the highest intellectual classification of the school as a whole (70-79 I.Q.), sometimes develop rapidly as far as general over-all achievement is concerned and proceed diagonally from Exploratory A through Intermediate B to Vocational C.

Placement of mentally handicapped pupils in the divisions of the prevocational organization is dependent upon age, adjustment, and academic achievement at the time of enrolment. The plan for grouping on the basis of age is geared to the needs of the individual pupil.

The prevocational schools, though terminal in organization, seize every opportunity of contact with the regular junior high schools in the matters of sports, intervisitations, socials, or competition of one kind or another. This leads to a better understanding of the prevocational program, particularly, and is conducive to better social adjustment of the pupils. When it is necessary to separate boys and girls on the prevoca-

tional level because of program needs or limited physical facilities, a definite effort is made to bring these boys and girls together at every opportunity. Lack of such effort makes for a superficial, unnatural, social development of both.

### 3. *Junior High School Special Classes*

I.Q. Classification: 65-79

Section I: Chronological ages: 13 yrs. to 14 yrs. 5 mos.

Section II: Chronological ages: 14 yrs. 6 mos. to 15 yrs. 5 mos.

Section III: Chronological ages: 15 yrs. 6 mos. to 16 yrs.

On the regional plan for rural areas where an intervening organizational step (prevocational) is not possible, mentally handicapped boys and girls advance, after the attainment of chronological ages of 12 years 6 months or 12 years 11 months, directly to the junior high school special classes. This practice may be adopted even in a metropolitan community but should be established on a more refined basis in view of the higher I.Q. classifications for each grouping.

When designated pupils from Division III, Section C (prevocational) achieve the minimum number of units for junior high school status they are transferred to a regular junior high school class. If acceptable progress is sustained, they are promoted with the regular junior high school group to a senior high school.

In the extension of educational opportunity for mentally retarded pupils in the junior high school, the emphasis on total school participation maintained on the elementary level is observed. The divisions in the regular program in which they are included are made up of pupils whose I.Q.'s are higher than those initially considered for special-class placement.

### IMPLEMENTATION OF REMEDIAL PROGRAMS FOR THE MENTALLY HANDICAPPED

The needs of the mentally handicapped today are to a great extent being served by legislation; by teachers certified to teach in this area; and by the aid of personnel specifically trained in supervisory, psychological, psychiatric, and vocational services and therefore capable of dealing with the problems of the individuals of this group.

Practically all states have provided both permissive and enabling legislation for the care, treatment, and training of mentally handicapped individuals. A few states have provided for the care of such persons for nearly one hundred years. Legislative provisions for public school special classes are much more recent. Among the states which pioneered in institutional or public school programs are Massachusetts, New York, New Jersey, Pennsylvania, Ohio, Minnesota, and Wisconsin.

The laws of some states are more comprehensive than others. For ex-

ample, the Illinois law authorizes an extensive program which includes the following: adequate facilities for early recognition and diagnosis; provisions for opportunities for education and training, both through state schools and special classes in the regular schools; adequate institutional facilities, including colony care; extra institutional supervision of all mentally deficient children who are cared for in their own homes; vocational guidance, training, and placement; planned teacher training; and continuing research to determine more adequately the nature of the problem of mental deficiency and the needs, capacities, and welfare of the mentally deficient (26).

Federal legislation still leaves much to be desired as far as assistance to the mentally handicapped is concerned. The National Mental Health Act, enacted in 1946, will benefit this group only to the extent that their problems are related to the preventive measures being developed in various areas of mental health. Though the Vocational Rehabilitation Act (Public Law 113) was amended in 1943 to provide services for the educable mentally handicapped, realistic planning for them can be expected only when trained personnel become available and when the needs of the adult mentally handicapped are accepted as a part of the educational responsibility of those concerned with vocational rehabilitation.

### Housing and Equipment

A special class for the mentally handicapped in a regular school, elementary or junior high, is more and more becoming a definite part of the regular organizational program, that is, the pupils are housed in the same school area with pupils of like chronological age. The same standards of light, ventilation, radiation, and seating that apply to any classroom are prescribed for the special classroom. The special-class pupils, as a group, also have access to the same school facilities and share them at designated times with the school body as a whole.

When mentally handicapped pupils cannot be accommodated in their school districts, they are sent to those schools which afford the means of transportation, an enriched program of activities, and suitable recreational facilities both indoors and out. Schools selected to receive these special-class assignments should be chosen with consideration also for their observance of the need for a participating program involving all the pupils of the school.

In single unit classes, i.e., those providing instructional facilities for all age levels, or even for two-room units which allow for refined age groupings, rooms much larger than regular classrooms are allotted because of the variety of activities conducted. Sometimes two rooms are provided for each group, one serving as a workshop.

Special schools or centers of a prevocational type have already been established in most metropolitan cities, while in a few, special vocational schools have been organized. The activities and the learning situations are designed to provide experiences of the type the mentally handicapped will encounter in their daily living.

In the matter of separate housing for special centers or vocational schools for mentally handicapped pupils of preadolescent and adolescent ages, consideration is given to the location and the type of construction of school buildings allotted for this program. Abandoned or condemned buildings do not suffice, neither will those in which the architectural features cause undue inconvenience. It is necessary to have the neighborhood placement of the school on a suitable cultural level so that the pupils flowing from all strata of society may feel secure in their special-school assignment.

Curriculum offerings are planned on two bases, pupil needs (intellectual, emotional, cultural) and work opportunities of the community. Therefore, implementation of the program in a special elementary class or in a prevocational or vocational school necessitates adaptation of furniture and equipment to the requirements of a rich and comprehensive program. This is particularly true on the adolescent level where a wide scope of activities for mentally handicapped boys and girls requires equipment similar to what they will use in industry.

### Required Personnel

Since chapter vii deals with the qualifications and training of teachers, it is sufficient to note here that the problem of teacher shortage and recruitment of acceptable teaching personnel is as great a problem in the area of the mentally handicapped as in any other division of teacher training. As the machinery for discovering the mentally handicapped is assembled and set in motion in more and more communities, the drive to secure well-trained teachers of the mentally retarded is being pressed with encouraging results.

Suggestions for developing a co-ordinated training program for teachers of the mentally retarded are as follows: nation-wide standardization of qualifications for teachers of the mentally handicapped; nation-wide establishment of special divisions in teacher-training institutions for the proper training of these teachers; nation-wide standardization of salary schedules for teachers in this field; national and regional registry of well-prepared teachers of the mentally handicapped; and a plan of sectional exchange of teachers prepared to teach in this field.

Though the teacher is the key person in the educational program of the mentally retarded, the extraordinary needs of such pupils require the additional services of specialized personnel. The supervisor, the psycholo-

gist, the psychiatric social worker, and the vocational counselor constitute a suitable staff of specialists.

*The Supervisor.* The supervisor serves as co-ordinator of all those forces which impinge upon the special teacher and special class. He also directs the in-service training program of the special teacher and interprets the procedures and directives which co-ordinate the functions of the special teacher and the special class with those of the school organization as a whole. He can assist the teacher by explaining what is meant by school management, by an integrated program, by pupil needs, by curriculum objectives, and by learning techniques. The role of the supervisor is a very important one in the education of the mentally retarded, for through his skilful guidance the teacher is made aware of the factors involved in stimulating the development of these children. These include consideration of the importance of initial performance, of carrying through, and of concluding a phase of an activity. The certainty of accurate repetition of such a performance by the mentally retarded is largely dependent upon the original approach.

*The Psychologist.* The psychologist's work in the education of the mentally retarded, as in the regular program, is clinical in nature. It covers many phases. He serves as interpreter to the teacher in regard to the pattern of pupil learning, he advises as to the proper psychological approach in pupil classification from the educational point of view, and he guides the selection and organization of learning experiences so as to meet the individual needs of members of the special class. He counsels the teacher on the mode of referral for those mentally retarded pupils who are having learning difficulties and indicates the type of referral data which may help in finding a solution to the problem of each pupil.

*The Psychiatric Social Worker.* The psychiatric social worker serves the school and the teacher through the medium of interpretive counseling. He analyzes the maladjustment of the mentally retarded pupil, explains his diagnosis to the teacher, and suggests a co-operative plan of treatment that may be made to aid the pupil in adjusting to the requirements of his training program. Also, he interprets the case to the principal of the school, particularly if the child is in difficulty outside as well as inside the classroom. He visits the home and explains the nature of the child's learning problems to the parents so that all persons in the areas which closely surround the pupil's activities will be understanding and co-operative. Even the community at large may be included in this interpretive approach to the social behavior of the mentally retarded. At all stages of progress, the psychiatric social worker carries on an intensive program of treatment with the mentally retarded individual himself for such period of time as individual treatment may be required.

*The Vocational Counselor.* For the mentally retarded of adolescent age,

a third trained worker, the vocational counselor, should be provided. His approach to the task of counseling the mentally retarded is on a co-operative basis, striving to bridge the distance between the school and industry and to acquaint each area with the needs of the other. In its various aspects, the program of the vocational counselor includes: vocational guidance, occupational analysis, personal counseling, the evaluation of vocational training, job placement, and follow-up.

As one surveys the facilities that are available or can be organized in any favorable school situation, it is conceivable that mentally handicapped children in general can be so educated as to enable them to assume their role as happy, competent adults in their respective communities.

### Curriculum for the Mentally Handicapped

*Philosophy as a Basis for Curriculum Construction.* Those who have pioneered successfully in the education of the mentally handicapped have been experimentalists. This has been due to the necessity of continually exploring two aspects of the problem, namely, the needs of mentally handicapped pupils and the guidance to be given these pupils in order to equip them to better meet the demands of the environment. In other words, continual emphasis has been upon the recognition of the maturational level of this type of pupil and upon the guidance of each individual in those motivating experiences which assist in the development of better integration of his own purposes with the conditions and influences of his environment.

This process of experimentation in the education of the mentally handicapped has extended through a number of years, partly because of the lack of a ready means of distinguishing sharply between feeble-mindedness and mental retardation. Of more importance, however, is the continued experimenting with standards of achievement on the part of the mentally retarded and with the selection of teaching materials with which to implement an effective program of instruction for the members of this group. Progress has been retarded by the attitude of educators who questioned the place in the public schools of those unable to profit from regular programs of instruction; and there has been a discouraging uncertainty of the possibility of the eventual adjustment of the mentally retarded to the normal social situations characteristic of community life. Some workers in this field have followed the narrow educational road. Their approach has been authoritarian and mechanistic in regard to the education of this group. The majority of the workers have, however, labored consistently and with confidence that scientific studies would finally assist in the solution of the problems involved in the development of a curriculum adapted to the needs and potentialities of this class of hand-

icapped children. The present status of this phase of special education may be attributed in great part to psychological and educational research. This research has indicated the differentiation in mental patterning of those who are regarded as deviating in some manner or in some degree from the normal course of mental development. The results have pointed the way toward more crystallized thinking; toward the improvement of methods of curriculum construction; toward the attainment of more effective teaching procedures; toward better organization of instruction; and toward wholesome participation on the part of the mentally retarded pupils in the school program as a whole.

As a natural consequence of these advances, an acceptable philosophy of curriculum development for mentally retarded pupils may be discerned. The years when pupils in special classes and schools were engaged in such activities as brush-making, rug-weaving, chair-caning, and in making knick-knacks of wood, metal, clay, raffia, and leather without consideration for the need of integrative development of the individual through the co-operative social action of the group may be regarded as the subject-matter period. These activities were pursued for the discipline involved, and such a program was centrally controlled. The influence of this discipline approach was also seen in the teaching of the academic subjects, particularly the three R's. Since the academic achievement of mentally handicapped pupils was not satisfactory when they were taught in the traditional way, the program emphasis was shifted completely to manual pursuits. The same narrowness and rigidity of the program was continued under teacher domination in much the same manner as was experienced by these pupils while grouped with normal pupils in the regular grades.

This evolving philosophy may be identified with the movements which mark the transition from the subject-matter curriculum to the more functional types represented by the experience curriculum and the core curriculum. It is a philosophy which requires that the curriculum for the mentally retarded be such as to offer broad experiences to the pupil; that it be sufficiently flexible in scope to allow for complete pupil growth; and that it provide opportunity for development by the pupil for those processes which assist in critically evaluating his experiences.

*Curriculum Goals for the Mentally Handicapped.* The general educational goals for the mentally retarded pupil are the same as those indicated for the normal child and as set forth by the Educational Policies Commission (39). They are the achievement of self-realization, the development of proper human relationships, the attainment of economic efficiency, and the assumption of civic responsibility. Each of these general goals implies the attainment of certain specific ones such as attainment

of a healthy body and spirit, acquisition of useful knowledges and skills, development of an integrated personality, appreciation of the arts, understanding the proper uses of leisure time, and growth in social virtue. Incorporated in the specific goals are those which aim toward the attainment of self-development, self-control, self-adaptation, and the appreciation of interdependence.

Since mentally retarded boys and girls are limited in their progress toward the common goals of their age group, the educational program which is to serve as a medium for the attainment of these general and specific goals must be adapted to their needs and abilities. The framework for supplying their needs is contained in one of two approaches, or in a combination thereof. The first, the experience curriculum, is based upon the interests of pupils, their felt needs, and their dominant purposes. The second, the core curriculum, is organized into units of experience based on significant situations, phases of life, or problems which pupils now face or will face in the future. The experience-curriculum approach covers the introductory phases of the program for the mentally retarded while the core curriculum points up the advanced planning for pupils of this classification.

The experience curriculum serves as the basis of learning for the mentally retarded, being geared to their felt needs. When the initial step has been accomplished, the admissible formal aspects of a problem may be introduced. This introduction is followed with concrete evidence, until the concept is grasped and assimilated. This type of approach is important in the presentation of all new concepts, not only in the fields of number and environmental science but also in learning to read and in written and oral expression, in learning historical, geographical, and scientific facts, and in creatively performing manual or aesthetic tasks. The development of these generalized skills has the same value for the handicapped as for the normal child. A difference is apparent, however, in the scope of content, the manner of acquiring this content, and the points of interest in the selection of content. The need of every child for achievement in all these activities stems from basic drives within the individual and from pressures of the environment. Individual growth advances through environmental interaction. The value of experiential learning, then, is that it provides for pupil purposing and allows for both the refinement of meanings and the integration of these meanings with the total goals which are envisioned by the core curriculum. Units of experience organized within the core curriculum stress the following developmental concepts: (a) the importance of the home, the members of the family, and the interaction of its members; (b) the value of utilizing community resources, of studying the place of the individual as a member of a social and industrial com-



munity; and (c) the development of the city, state, and country effected through the labors of many classes of people. The part which industrial and agricultural inventions play in the over-all growth of the country is emphasized. As the mentally retarded individual is able to make appropriate adjustments within this sphere of socialization and increases his proficiency in such interaction, the goals of self-realization, acceptable human relationships, economic efficiency, and civic responsibility are progressively realized.

*Problems in Curriculum Construction for the Mentally Handicapped.* The task of constructing a curriculum for mentally retarded children is more complex than that for normal pupils because it is necessary to retain the basic elements in the curriculum for the regular groups as well as to adapt materials to the abilities of the special class. This requirement must be met if the mentally handicapped are to be guided to live successfully in a "one world" plan during their lifetime. Many problems are presented in this undertaking.

The first is concerned with the curriculum itself, which contains carefully chosen experiences in order to meet the needs of the mentally retarded learner. This should be characteristic of the curriculum for all mentally retarded children from the youngest to the oldest, because the scope of experiences must fit the social age of this type of pupil while the understanding of those experiences are brought within his mental grasp.

The second problem pertains to curriculum adjustment as indicated by the length of the individual school-life span in relation to pupil capacity. This problem covers three aspects: the age of enrolment of the pupil in a special class; the mental capacity of the enrollee; and the type of program to be offered the mentally retarded pupil during his years in school. Since the average age of referral and grade placement is eight or nine, it probably means that only eight school years may be available for educational guidance. Therefore, not only must expediency be served in planning what can be offered in the allotted time but also the offerings must be continually adjusted to the mental capacity of the pupil and to his evolving social needs.

A third problem involves curriculum offerings as governed by class organization. Since the social-age grouping of the pupils of the special elementary class is usually wide, ranging in some instances from six to twelve, the opportunity for teacher emphasis on a wide scope of curriculum materials and for pupil assimilation and consolidation of acquired knowledge and skills will be limited. However, it should be possible to formulate what is offered according to a plan which makes the total offering both balanced and complete.

For those mentally retarded pupils who remain with one teacher for

two or more years, every effort should be made to blot out situations which make for boredom or ennui. This is accomplished by a well-conceived plan of organization which includes a wide variety of experiences, so arranged that they permit a continuous flow of pupil developments. This approach may be employed for the individual who enters late or is just passing through, as well as for those who may remain in the same class organization the full span of school years.

The fourth problem centers around the essentials of curriculum offerings and the determination of the depth and breadth of what will constitute the essence. The limitations of time and of pupil handicaps dictate a curriculum content that can be made realistic and consumable for the mentally retarded. At the same time, it is important to include in the list of essences, cultural phases dealing with the humanities and those offering opportunity for the expression and development of aesthetic ideas and attitudes which will be reflected in the personality of the individual.

A fifth problem has to do with the securing of materials to implement curriculum content. Though there is still a meager supply of generalized educational material suitable for the mentally retarded pupil, some materials designed for extension of the scope of experiences provided for normal children are helpful to some degree. Progressive school systems in metropolitan areas with a large concentration of special classes have been developing their own materials for the mentally handicapped or adapting for use those used with the regular groups. Supplementary educational materials are being developed from the units of experience organized especially for the mentally retarded. These are particularly valuable since the vocabulary involved in them is suitable for the mentally retarded. The materials generally found in regular grade-school reading materials are not commensurable with the social interests of pupils of this classification.

Audio-visual and kinesthetic aids have been found to be excellent not only in supplementing the educational material available but also in motivating the pupil in various learning activities.

When these resources are utilized to implement their needs, one finds mentally handicapped children learning considerably faster and retaining what is learned much longer. Wygant (53: 23) prepared a list of modern educational equipment which is helpful for direct learning activities in classes for the mentally handicapped.

The importance of implementing the curriculum by use of the aforementioned related activities must be emphasized. A wide variety of such experiences will greatly enrich the program and make the task at hand much more meaningful to the pupils.

## TRENDS IN THE EDUCATION OF THE MENTALLY HANDICAPPED

In the last decade and a half great progress has been made in the education of the mentally handicapped. Improved programs have been made possible by the enactment of federal and state legislation. The results of research on medical, psychological, and educational problems relating to this group have assisted in furthering these programs.

## Legislation

In 1930 there were only eleven states with laws making special educational provision for the mentally handicapped. By 1940 five additional states had, in like manner, recognized the needs of this group; and in 1948 there were thirty-five states whose legislatures had declared their intention of effecting a program of welfare and education for children who are recognized as retarded in mental development.

The enacted legislation in nearly all states provides financial assistance to local communities making special provisions for mentally handicapped pupils. The financial aid is based, for the most part, upon the contingencies that (a) qualified clinical examiners shall certify the pupils who are to be classified as mentally retarded and make the necessary recommendations for their welfare; and that (b) specially qualified teachers only shall be selected to guide the education of pupils of this group.

Efforts are unabated toward the enactment of legislation in other states making suitable provision for the education of the mentally handicapped. Functional federal legislation in behalf of these groups is also progressing, examples being the National Mental Health Act and the Vocational Rehabilitation Act.

Typical state-planning in the interest of mentally handicapped pupils includes such provisions as the following:

- a) Organization of regional special classes to serve all rural children of a particular area.
- b) Transportation of children classified for a special-class program to a designated special-class center.
- c) Placement of children selected for admission to a special class in a boarding home in a community maintaining a special class when furnishing transportation is not feasible.
- d) Making available to teachers of both the smaller urban and the rural communities such consultants and special-class teaching services as can be provided by metropolitan areas.
- e) Providing in-service training of regular teachers and school administrators so that they may be better informed on teaching procedures necessary for the educational guidance of the mentally retarded child.

- f) Assignment of technical and consultant assistance from the state department of public instruction or some other designated educational agency for both teachers and families of mentally handicapped pupils.
- g) Securing circuit-traveling teachers and special supervisors to help supervise the work of the regular teachers having mentally retarded children in their classrooms.
- h) Conferences with families, when necessary, by representatives of an accredited agency in regard to the desirability of seeking custodial care and training in a private or public residential school for certain types of mentally deficient children.

### The Contributions of Medical Science

Research in the area of biochemistry, indicating possible improvement in the intellectual status of the mentally handicapped, is attracting the attention of large groups of professional and lay people, among them being many research workers.

The studies have been concerned with (a) the effect of benzedrine therapy on psychomotor retardation and apathy in the mentally handicapped; and (b) the effect of glutamic acid on the general acceleration of performance of the mentally handicapped. The results of the efforts of these experimenters are tentative (2, 37, 54). Their work opens up challenging phases, psychologically and educationally, and future experiments by these scientists will be followed with careful attention.

### Psychological Investigations

In the psychological field there have been important research contributions relating to the mentally handicapped. Some of these studies have been concerned with the differentiation between primary and secondary characteristics in cases of mental deficiency and the measure of performance of the individuals falling in these two classifications. The definition of the classifications, primary (endogenous) and secondary (exogenous), introduced by Strauss (45, 46, 47), have been extended through the findings of Doll (15) indicating that these investigations will be of invaluable assistance to educators, particularly, in planning educational programs for those mentally handicapped who are qualitatively and quantitatively classified.

A type of psychological research, which has from time to time been a matter of great concern to workers in the field of special education, is that which has involved controversies growing out of the findings pertaining to the purported increases in intelligence rates due to environmental influences. Some of these studies have been recorded by Freeman and others (20), Skeels (42), and Schmidt (41).

The report of Schmidt's investigation has been evaluated by Kirk (29). This evaluation and other follow-up studies indicate that these data need

further checking before being finally accepted. Other phases of psychological research which have been of great value as an aid in the personality adjustment of the mentally handicapped in the school and the community have been reported by Doll (16), Brainerd (6), and Voelker (49).

### Research in Curriculum and Methods

The literature on educational research pertaining to the mentally handicapped is more voluminous. Considerable emphasis is being given to research on programs for the preschool and adolescent mentally handicapped and to those pupils in this classification who have other handicaps as well.

The Wayne County Training School studies (33, 51) on preacademic training for the mentally handicapped, together with the contemplated program of research on the preschool child at the University of Illinois, reflect the growing interest in these phases of the problem and point to the possibility of expansion of these types of programs. Experimental programs for the adolescent mentally handicapped on the secondary and vocational levels have been functioning for over ten years. These experiments (23, 24, 35, 36) have been so satisfying and productive that the extension of school programs for this group is now assured. Another aspect of the study of the needs of the secondary-school groups which has given stability and forcefulness to these experiments is the realistic curriculum-planning (3, 7, 25, 27, 32) for the mentally retarded that is being carried on in a number of centers. These curriculum studies have also resulted in fruitful vocational guidance and placement programs (5, 8, 13, 17, 18) in the postschool careers of pupils of this classification.

Experimental programs for the mentally retarded who suffer additional handicaps such as glandular disturbances or neurological impairments are very few in number. The Bureau for Children of Retarded Mental Development of the New York City Public Schools has been active in this respect, as has also the Department of Special Education in Detroit through a program (34) set up at the White School for Epileptics. The Department of Special Education in Newark has been experimenting since 1940 with a program of care for children with multiple handicaps, as reported by Harrison (21).

The aforementioned contributions to the literature on the mentally handicapped have been creditable but not sufficiently comprehensive. Research which would further stimulate the thinking and broaden the vision of those working in this field should include studies concerned with specific organizational and programming procedures to serve the needs of those in the endogenous-exogenous classification; with experimental work in curriculum-building which involves the humanities; with plans for fur-

ther extending the opportunities of the mentally handicapped beyond the elementary-school level or outside the special classroom within the elementary school; with rich curriculum outlines designed for the very young mentally handicapped or for the handicapped individual who has a subject or speech disability; with the use or adaptation of techniques devised to assist in the personality adjustment of the mentally handicapped; with experimental data on the community supervision and family care of school-exclusion cases; and, last, with suggestions for a school program co-ordinating community agencies in the current and postschool life of the mentally handicapped.

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## CHAPTER XIV

### SPECIAL EDUCATION FOR THE GIFTED CHILD

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#### HISTORY

Since early times men have recognized the existence among their fellows of individuals of superior intelligence. More than 2,300 years ago Plato speculated upon ways of telling which children were gifted so that they might be educated for leadership in the state. He believed that children should be trained to do that for which their abilities suited them. He was convinced that Greek democracy would be no better than its leadership and he wished to educate superior youth for this important task.

The Romans later adopted some of Plato's ideas and gave special training to superior youths so that they might become leaders in war, oratory, and government. In the sixteenth century Suleiman the Magnificent sent emissaries throughout Asia Minor with instructions to examine and select the most intelligent youth of the Christian population for special education. These talent scouts at regular intervals presented the Sultan with the fairest and brightest youths to be found. These individuals were then trained for positions of leadership in the Empire.

Organized education of gifted children almost disappeared during the seventeenth and eighteenth centuries. Here and there a few superior children were given special attention with remarkable results. Karl Witte

was taught to read five languages before he was nine years old. His tutor had him ready for college at the age the average child learns to read. The degree of doctor of philosophy was conferred upon him when he was fourteen. Lord Kelvin, who was tutored tirelessly by his father, won distinction at the University of Glasgow before he was twelve years old.

These gifted children represented only isolated cases since few had such opportunities. The educational philosophy of the times insisted on the equality of all men. Hobbes, Jacotot, and Leibniz contended that all native intelligences were equal and differences come about through training. Under such a philosophy special education of the gifted had no place.

The earliest attempt to provide for gifted children in the public schools of the United States was probably that of William T. Harris in St. Louis, Missouri, about 1867. His effort consisted largely in introducing greater flexibility into the promotional system, thus allowing gifted children to accelerate their pace rather than remaining in the "lock-step" program. Variations of this procedure followed throughout the United States in the form of multiple-track programs which aimed at saving time for the superior pupils.

Around the opening of the twentieth century, the multiple-track plan was found suitable for providing an enriched program without acceleration. By 1920 the public schools of three large cities, Cleveland, Los Angeles, and Rochester, were offering enriched programs to the gifted children. The emphasis on enrichment continued for over twenty years until the period of World War II.

The marked acceleration characterizing war-time educational programs raised the question whether or not precious time was being wasted in the traditional program. The evidence indicated that at the college level, at least, essential objectives of education could be accomplished in considerably less time than the conventional allowance. Students allowed to enter college on the basis of an entrance examination with less than four years of high-school training have been quite successful in college work.<sup>1</sup>

#### PHILOSOPHICAL CONSIDERATIONS

The gifted child is both an asset and a responsibility. He is an asset of incalculable value to society. His potentialities for good are difficult to overestimate. Our socioeconomic structure, both national and international, demands leadership of the highest quality and keenest intelligence. Where else may we look for this type of leadership except among those of intellectual superiority?

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<sup>1</sup> S. L. Pressey, "Efficiency Engineering in the Educational Emergency," *School and Society*, LXV (June 7, 1947), 426.

Democratic education is founded on the ideal of equality of opportunity. Too often equality of opportunity has meant identical opportunity. Opportunity to be equal must be measured in terms of individual abilities and capacities to the end that all will be challenged to utilize their powers to the fullest. Society will reap a rich reward from such a policy. It makes possible the full development of individual capacities so that both the individual and the society which educates him may be mutually benefited. As John Dewey says: "If democracy has a moral and ideal meaning, it is that a social return be demanded from all and that opportunity for development of distinctive capacities be afforded all."<sup>2</sup>

There is nothing undemocratic in utilizing all social resources for the betterment of society. No people can afford to disregard the differences in human materials. Special education aims to prepare the child of low mentality for the place in society for which he is best fitted. Is it any less important that the child of superior mentality be prepared for social leadership?

The report of a recent study<sup>3</sup> of the relationship of parental income and college opportunities presents an alarming picture of the waste of human resources caused by the limitation placed on the higher education of gifted high-school students by the economic factor. Dr. Goetsch found that over 90 per cent of the superior high-school graduates who came from families in the upper income bracket were attending college. Less than 20 per cent of the superior high-school graduates from the lower income bracket were attending college. It thus appears that lack of financial resources prevents many superior boys and girls from reaching educational maturity. Society loses accordingly.

Society is injudicious in the extreme to neglect those children who possess the potentialities of high-quality leadership. It is the part of wisdom to prepare these boys and girls for the important social responsibility which will be theirs. Today, as perhaps never before, we face problems of world magnitude which threaten the existence of society itself. Education is challenged to develop leadership for the tremendous tasks which lie ahead. Under such conditions, special education of the gifted is not only justified but is demanded by the lessons of history.

#### IDENTIFYING THE GIFTED

The identification of gifted children is not as easy as it appears at first thought. "Gifted" in the broadest sense includes both those who have

<sup>2</sup> John Dewey, *Democracy and Education*, p. 142. New York: Macmillan Co., 1916.

<sup>3</sup> Helen B. Goetsch, *Parental Income and College Opportunities*. Teachers College Contributions to Education, No 795. New York: Teachers College, Columbia University, 1940.

high intelligence and those who have special abilities or talents in creative fields such as art and music. However, as the term is used in this chapter, it will refer to those of superior general intelligence and not to those who are specially talented. Such talents are often mistaken as indications of superior general intelligence. On the other hand, the lack of interest in classroom routine manifested by many gifted children has misled the teacher in many cases and caused her to regard them as dull or slow-learning individuals. Attitudes growing out of frustration have caused gifted children to be classified as delinquents and socially maladjusted cases.

There is need for careful, systematic identification in all schools. Many schools make no effort to learn who the gifted are, and still others make the attempt in such haphazard fashion that the results have little reliability and still less usefulness. There are three general methods of identifying superior children which supplement each other and which, taken together, provide an excellent program of identification.

#### Standardized Tests

Standardized tests used with good common sense are excellent means of arriving at the gross mass of gifted children. Such tests include group intelligence tests, vocational aptitude tests, academic achievement tests, and the like. If these tests are followed by a Stanford-Binet, after careful study of the child emotionally and socially, such procedures will come as near identifying the gifted as any other means. There are, however, some who, believing the total organism of the child to be a combination of physical, emotional, volitional, and intellectual traits, say that these traits operate so closely in an individual that it is impossible to measure them separately. For a more extended discussion of this concept, the reader is referred to chapter iv. It is true that emotional and social instability does keep a child from showing his true mental capacity. It is true, also, that fluctuations in intelligence quotient may come as results of emotional and social upsets. When one realizes fully the scientific construction of standardized tests, the objectivity of their administration, and the research which has gone into their standardization, he cannot help realizing their value as "instruments of prediction." Watching for a period of years hundreds of boys and girls being given opportunities commensurate with their predicted intelligence has led us to believe that the standardized individual intelligence test is the best single means available for prediction. Educators seldom think of intelligence in the abstract but concede that it is minutely interwoven in the organism of the whole child.

#### Teachers' Judgments

One is often reminded of Leta Stetter Hollingworth's story of the teacher who, when asked by the principal why she thought a child was bright, replied,

"Because she can play the ukelele and sing so well." Special talents are often mistaken for unusual general mental ability. A clear idea of the nature of intelligence is little understood by the best of educators. Teachers, as people in general, are human and are capable of all the errors in judgment that "the flesh is heir to." Disregard for the age of the child is a common error in choosing a bright child. Over-aged pupils, doing excellent work with children chronologically younger, are sometimes erroneously judged bright by teachers. Then, too, the child who follows directions implicitly, who has fine character traits, whose personal appearance is flawless, and who behaves himself well surely makes a better impression than one who causes the teacher untold difficulty. Human judgment, being as it is, is not always reliable. It would seem, then, that a combination of teachers' judgments and the results of standardized tests is much better than the use of tests alone as a means of choosing the bright child.

#### Classroom Performance

It is difficult, indeed, to place much reliability on school marks. Certainly, if the consensus of opinion of several teachers is that certain children rank high in their school subjects and if these children are not over-age for their grade, school marks then might be used as the basis of selecting gifted children.

School marks by no means tell the whole story, however. The writer is reminded of the forlorn-looking little fellow who made no progress at all in his new school. The principal, feeling that surely there was some adjustment that could be made in the school work for this lad, decided that he would have a Binet test administered before recommending special work for him in a class for mentally retarded children. The resulting intelligence quotient was 145. Judged by accomplishment, this boy could have been recommended for a class of mentally retarded children. If standardized tests are used as a basis for school marks, much more credence can be given the marks as far as predictive value is concerned. No one can deny, however, that good school marks usually indicate good intelligence.

#### CHARACTERISTICS OF THE GIFTED

That skill in thinking and superior mental organization are qualities of the gifted child is recognized by all investigators. Most apparent in his show of mental power is his superior reading ability. He is a more rapid learner than the average child. He has the ability to generalize more easily, to recognize relationships, to comprehend meanings, and to think logically.

His mental habits differ somewhat from those of slower pupils. He is less patient with routine procedures. He needs to learn efficient methods of study but is able to work better unhampered by too close supervision.

His versatility is shown in his wide range of human interests. Because of this, he finds a distinct advantage in the study of many widely differing subjects. These many interests, together with the desire to forge ahead to explore new fields, play a large part in forming his attitudes. His mental traits are usually rounded into an integrated personality for he is guided by a rather high degree of common sense, breadth of mind, and the power of self-criticism.

The popular belief that the bright child is small and weak physically has no basis in fact. Leta Hollingworth<sup>4</sup> found the following to be true: "They tend to be tall and heavy and to maintain a high ratio between weight and height. In so far as this weight ratio indicates nutrition, they are very well nourished as a group."

A number of observations concerning nervousness show that superior children are relatively free from nervous troubles.

In their social attitudes, as Bentley<sup>5</sup> asserts, the gifted are above the average. They take part in much the same activities as other children and win recognition to a higher degree. They are usually honest and seem to be helpful and charitable. While desirable moral traits seem to be correlated with intelligence, there have been many cases where clever minds, untrained in a moral society, have become a social menace. This points to the great need of developing in these children a sense of integrity and wholesomeness in meeting life's situations.

It has been said that the maladjustment of the brilliant is one of society's greatest handicaps. And indeed, as we see the decreasing influence of the home, we realize that more responsibility is placed upon the school for the development of character.

## PROVIDING APPROPRIATE EDUCATION FOR THE GIFTED

### In Towns and Rural Areas

Current reorganization and consolidation of school districts are bringing more and more pupils together within single administrative districts. This is a hopeful trend for special education in general and for education of the gifted in particular. Since the percentage of gifted children of the total student population is not large, school districts must have pupil populations of a thousand or more to enrol twenty to fifty gifted children. Consider further the fact that they will be rather uniformly spread over the age range of the group and the difficulty of special instruction seems almost insurmountable.

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<sup>4</sup> Leta S. Hollingworth, *Gifted Children: Their Nature and Nurture*. New York: Macmillan Co., 1929.

<sup>5</sup> John Edward Bentley, *Superior Children*. New York: W. W. Norton & Co., Inc., 1937.

In small school districts, individual instruction in a large measure may necessarily be the method adopted. Full-time special classes are ruled out by the circumstances. The difficulty of offering special individual instruction to gifted children is obvious. Regular teachers are seldom versed in the best methods and techniques of dealing with superior children. Proper materials are seldom at hand, and the teacher's time is taken up with the regular work of the classroom.

One solution to the problem is probably the employment of a special teacher of the gifted whose job is to help identify the gifted, set up programs of individual instruction for them, provide necessary materials, and assist the regular teacher in enriching the curriculum and in providing proper instruction of the gifted. This teacher might be termed a supervisor of this phase of special education. He should provide stimulation as well as technical knowledge and skill. His work can go far to insure adequate educational opportunity for the superior child.

One such teacher can serve a fairly large rural or town-centered district. He can develop a co-ordinated program of special instruction to individual students through their regular teachers with occasional field trips in groups. These field trips and certain co-operative ventures in which these children would participate as a group give them an opportunity to compare notes and discuss their individual projects together. Plays might be produced, school papers published, and community surveys conducted to provide opportunity for united effort.

Finally, the special teacher will recommend desirable acceleration for gifted students, being guided by an intimate knowledge of each student's interests and capacities. His judgment combined with that of the regular teacher should be a reasonably safe guide to the school administrator. Such a program, including individual instruction combined with group activities and curriculum enrichment, together with appropriate opportunities for acceleration, has much to recommend it in town and rural areas and is not unsuitable for large cities.

Where such a plan is impractical because of lack of personnel, the work outlined may be undertaken by the supervisors of the general program.

### In Large Cities

In cities of a hundred thousand or over it is possible to establish special classes for the gifted of sufficient size at each grade or age level. Although the advisability of such classes is still debated, there is evidence to indicate their value. The following report of one successful program involving special classes for gifted children is taken from "The Major Work Class Handbook" of the Cleveland Public Schools.

Through its "major work" classes, Cleveland attempts to meet the

specific needs of the bright child. The bright child masters the essentials of the regular curriculum in a shorter period of time than is usually allotted; therefore, he needs such additional activities as will encourage wholesome mental, physical, emotional, and social development. He needs challenging work in order to derive satisfaction from the accomplishment of it and in order that he may develop good study habits.

The fast learner needs the association of children of ability equal to his own to challenge him and to make him realize that he has many peers. This association will tend toward making him a better student and developing within him a finer character. Furthermore, society has a special responsibility in the training of bright children because they possess powers and qualities which make them the potential leaders of tomorrow. The bright child needs special consideration in order that his latent abilities may be fully developed and that he may become a successful individual and fulfil his promise to society.

*Objectives and Administration of the Cleveland Program.* In the "major work" classes, where education is tailored to fit the needs of the mentally superior child, an enriched curriculum is provided. Among the objectives in these classes are:

1. Increasing the range of knowledge and skills of the students
2. Developing alertness
3. Developing initiative and creative power
4. Developing an attitude of critical thinking
5. Developing power to work *independently*, to plan, to execute, and to judge
6. Developing increased ability to *share* in undertakings
7. Developing leadership

Pupils of the "major work" classes are admitted on the basis of their intelligence ratings as determined by the individual Binet test. The required intelligence quotient is 125 or above. Candidates for these tests are pupils who are usually outstanding in their work and are recommended by their teachers. Sometimes, however, they are pupils who seem mal-adjusted and troublesome. Frequently, when their tests reveal a high intelligence quotient, it is a surprise to both teachers and parents.

These classes are set up and administered to meet the particular needs of this group. The classroom itself is pleasant and informal. Fixed desks are abandoned to make way for tables and chairs. Bookshelves, curtains, pictures, plants, an attractive library corner, maps, globes, encyclopedia, and reference books are part of the equipment which provides an atmosphere for enriched living and freedom from regimentation.

Though these children are segregated, they are by no means isolated from the rest of the school's program and activities. Contacts with the



other children are constantly being made through clubs, gymnasium, chorus work, orchestra, and playground.

*The Curriculum.* Enrichment is the keynote on which "major work" class education is built. This means that these pupils accomplish more than the pupils in regular classes. Because of their ability to learn more quickly, they branch out on a richer program of work suitable to their ages and interests but not encroaching upon the work of grades beyond. Such enrichment is brought about by opportunities provided for worthwhile activities and experiences and by the methods of instruction. Among these opportunities are special instruction in art, intensive work in language and literature, typewriting, writing and producing plays, making reports to the class, reviewing books, and writing stories, articles, and editorials for school newspapers.

French is also studied. Beginning as early as the primary grades, these children, through games, songs, and dramatizations, secure a foundation for the more formal study of French in the junior and senior high schools. This early instruction in a foreign language serves as a tool in acquiring other languages later. Subjects other than French are not brought down to the lower levels of the elementary and junior high schools.

Opportunities for learning by observation and direct experience are provided by trips to the museums, to symphony concerts, and to industrial plants.

Learning to speak effectively and well is another objective for bright children. The five-minute daily talk-period gives each child many opportunities to stand before the class and give a talk that he has prepared on a subject of his own choice. He knows he has certain standards to meet—standards set up by the class—by which his efforts will be judged. Usually these talks result from his own hobbies and experiences. Other opportunities for speaking come in presenting reports in geography and history and in presiding as leader in the literature groups.

Training in taking responsibility is important in the education of every child, but especially so in the education of the bright child, to whom society will look for leadership. No child is too young to be responsible to his group for the task he has undertaken, whether it be taking charge of library shelves, care of the library corner, or merely watering the plants. He is likewise made responsible for planning his own time. After a few failures to have his work ready at a specified time, he learns the need of budgeting his time and starting early. He is responsible for his part in group activities. He is responsible for collecting his own materials. He is taught how to use the facilities of the library, and his many needs give him experience in using them.

The bright child is characteristically an able and assiduous reader and

delights in books. This is fostered and guided. He is encouraged to branch out in his reading interests toward books of science, history, biography, travel, informational fiction, and poetry. He learns what constitutes a good biography; he learns to enjoy poetry and to try his hand at making poems himself; he learns to take vicarious trips into the fields of science and history. He is kept in touch with the finest in children's books through his literature study group and by contact with the Literary Guild books of the month.

Love of beauty is usually strong in this group, and special work in art and music is found profitable for them. Often special talent is discovered among these children through such work. The radio is likewise used to advantage in this field.

Because the bright child must be educated to contribute to society, the school's efforts are directed toward his understanding of social obligations and his awareness of the world at large. Emphasis is therefore given to national and world affairs. These are dealt with as problems, chosen according to the age and understanding of the group. Something of the form and functioning of our government is also a part of current history work.

*Methods of Instruction.* As to methods of class instruction, there is no one process used, but a combination of all the best methods of teaching gifted children is utilized. The socialized procedure is most used, with the teacher as an interested participant of the group. Informal discussion makes possible the practice of desirable social habits such as tolerance, patience, courtesy, respect for the talents of others, and learning to work together. The social procedure also gives the child a chance to use his abilities and to make his contribution to the group.

The work is planned in large units, a suitable method for these children because of their longer interest span. The social studies, literature, and group projects lend themselves well to this procedure. Usually arithmetic, in which the pupils progress at varying rates of speed, is done on an individual basis. Drill is used when needed, though, on the whole, less is required than in the average classroom. Tests of various kinds are frequently used to measure progress. Independent study is required, and help is not given until needed. Such measures as these are used in order to throw these children upon their own resources and to develop self-reliance.

Besides participating in group activities, each pupil has the experience of carrying on a piece of work (resembling research) along some line of his own special interest. This is finally presented to the class and is discussed and evaluated by the group.

The last word has not yet been said on the best way to teach bright children, and probably never will be. The "major work" program, there-

fore, is and must be flexible and experimental in order to fulfil its purpose of educating the child to think and of requiring from him the obligation to walk in his full stature.

*Evaluation.* Some evidences of accomplishment of "major work" classes are determined by objective test results and some are judged by participation in school activities which require leadership and a sense of responsibility. "Major work" class philosophy recognizes intelligence but does not discount the basic element of personality and special talent. Intellectual pursuits represent but one aspect of well-rounded living. Psychological traits, including the dynamic and emotional phases of personality, are of utmost importance in the appraisal of the individual. Temperament and intellect reacting to environment result in what we call character.

Each year the school achievement of "major work" pupils is measured by carefully selected standardized tests.

The average chronological ages of these classes are no higher than those of pupils upon whom the norms were established. This draws attention to the fact that the guiding philosophy for "major work" procedure is enrichment rather than acceleration. Every effort is being made to keep these pupils in groups where their physiological and social development corresponds to their chronological ages. It is of interest to note that the achievement of these pupils does not begin to approach their high mental ages. This does not mean that the teaching is inadequate or that subject matter has not been emphasized. It probably means that achievement levels which would coincide with the mental ages at this early chronological stage might result in developing unnatural child prodigies rather than developing happy, well-adjusted boys and girls.

Each child has an individual record, kept in an especially planned folder. In this form the individual record is available for the evaluation of progress from the pupil's entrance into the "major work" classes until he completes the twelfth grade. A close correlation between his intelligence ratings and achievement marks usually exists. As stated before, tests are administered at least once annually. This procedure serves a double purpose. It provides a check on the individual achievement of the pupils and indicates where emphasis should be placed for future teaching. The standard of the grade is set for the average child, but the bright child may work on other materials and interests after the requirements are met. In this way boredom is avoided.

Boys and girls of "major work" classes are the leaders in many of the school's activities for which they have special abilities. They are members of the safety patrol, student council, choral groups, school orchestra or band; they are leaders in physical education; they edit and contribute

to the school newspapers or periodicals; they are winners in competitive activities such as poster and spelling contests; they are often the valedictorians of their graduating classes, and they are recipients of scholarships to colleges and universities.

The test results and the efficiency, leadership, and sense of responsibility manifested by "major work" pupils in their participation in school activities are evidence that the philosophy and administration of "major work" classes is sound and practicable.

The education of children who have abilities different from or above the average has passed through several stages: first, a period of recognition of their special needs; second, experimentation in different curriculums, methods, and techniques in education to meet the needs; and, third, an attempt to evaluate the results obtained from the previous period. The time has now come for a fourth period—a time of building upon the foundation previously laid, for strengthening weaknesses, correcting deficiencies, and for widening the horizon.

Parents who send into the schools children decidedly above average are vitally concerned with the most expedient and advantageous use of their children's talents. The schools are constantly striving to improve educational environment, but they must understand the home environment from which children come. School and home must meet in closer cooperation for a better perception and solution of the problem.

Achievement tests administered from year to year in "major work" classes have shown consistent superiority in the academic subjects. With this as a foundation, attention may now be turned to other factors involved in highly successful living for superior people. The importance of personality traits in social adjustments, attitudes, emotional control, and stability and of other intangible phases of success in managing people and affairs calls for much investigation and analysis. Perhaps these children need more definite training for leadership based upon the knowledge of why people follow.

Continued study of current affairs is of increasingly vital importance, due to the present chaos of world affairs and the closer relationships into which all people are being drawn.

Vocational guidance for superior children with analysis of the specific problems and opportunities of various vocations in relation to their particular endowments and abilities may lead to a more satisfactory adult life. More effort should be directed toward the discovery of special aptitudes and talents, for example, in music and art. There should be provided continuous acquaintance with current trends in the development of science and industry.

"Major work" classes are seeking, as in the past, to foster in each pu-

pil: the desire for achievement and service, because of the satisfaction it brings; critical thinking, in the hope that it will result in the rejection of that which is useless, harmful, or irrelevant; and the disposition to test all printed and spoken words by the facts rather than by the emotional power which they carry; in short, the ability to understand and utilize that which he has in common with his fellow men, and the desire to contribute to his environment the individual gifts which he possesses.

*Programs in Other Cities.* Today, several large cities have programs for the gifted which approximate the one herein described. Not all are called "major work" classes; there are "opportunity groups," "enrichment classes," "adjustment classes," and many others. One city has an entire elementary school devoted to gifted children and a selected grouping of gifted in the junior high school. Some city systems attempt to give enriched courses to individual gifted pupils without special grouping. As time passes, more large cities are becoming cognizant of the problem of the gifted child.

#### FOLLOW-UP STUDIES AND THEIR EDUCATIONAL IMPLICATIONS

The Stanford study of gifted children, begun in 1921 and continued to the present, was not planned as a direct attack upon the educational problems presented by such children. Its primary purpose was two-fold: (a) to determine what physical, mental, and personality traits are typically characteristic of gifted children; (b) to find out by means of long-range follow-up how such children develop and, if possible, what factors influence their later achievement.

It was believed that an investigation of this type was necessary to provide the basis for a more strictly pedagogical approach. If children of high intelligence quotient are, as many have thought, especially prone to be sickly, one sided, and socially maladjusted, plans for their training would have to take such characteristics into account. If they commonly regress to near-average when they grow up, then we should disregard differences in intelligence quotients and abandon special classes for high-testing pupils. It is proposed here to sketch very briefly some of our findings which throw light on these two questions. The reader who wishes to examine the evidence on which these generalizations are based is referred to the book, *The Gifted Child Grows Up*, by Terman and Oden.

The subjects studied included in all about 1,500, ranging in childhood intelligence quotient between 135 and 200, and averaging 152. They were selected by methods which insured that the group would be fairly representative of the generality of children who rate in the top 1 per cent on intelligence as measured by the Stanford-Binet scale or the Terman Group Test. What is true of this group should be true of gifted children

in general who have had comparable educational and cultural opportunities. What were they like as children?

In health and physique, medical examinations and anthropometric measurements showed them to be appreciably superior to the general school population. Character tests, personality tests, and trait ratings placed them definitely above control groups of corresponding age. The deviation of these subjects from the generality was found to be in the upward direction for nearly every trait, but the amount of deviation varied from trait to trait. It was greatest in those aspects of behavior most closely related to intelligence, such as originality, intellectual interests, and ability to score high in achievement tests. In school achievement the superiority was greatest in the abstract subjects and least in penmanship, spelling, and routine arithmetical computations. This unevenness was not appreciably greater for the gifted group than for a control group, but it was different in direction; whereas the gifted are at their best in the "thought" subjects, average children are at their best in subjects that make least demands upon concept manipulation.

The interests of the gifted children were many-sided and spontaneous. They engaged in all kinds of childhood activities and had acquired far more knowledge about plays, games, and sports than the average child of their age. In a test of interest maturity they averaged more than two years above the age norms.

In grade placement the typical gifted child was found to be accelerated only 14 per cent of his age, but in mastery of the subject matter taught he was accelerated about 44 per cent of his age. The net result was that a majority of the members of the accelerated group, during the elementary-school period, were kept at school tasks two or three full grades below the level of achievement they had attained. Surely this is one of the most challenging facts about the typical gifted child. Hardly less challenging is the fact that during the earlier years, at least, the school appeared to play only a minor role in the education of these children. This statement is based on the finding that among those of a given age, say ten years, there was not one reliable correlation between the number of months a child had attended school and his achievement-test scores in the various school subjects; this despite the fact that some children had attended more than twice as long as others.

Such, roughly sketched, is the composite picture of the gifted child in terms of central tendencies. It will be understood, of course, that gifted children show wide variability in every trait and that no individual child follows the central tendency of the group in all his traits. Gifted children, like other children, display an infinite variety of patterns. Nevertheless, the method of composite portraiture is very useful as a basis for generali-

zation. From the point of view of education, it is highly important to know what the *typical* gifted child is like.

Inasmuch as it has been possible to follow the careers of more than 95 per cent of the original group to 1946, when the average age of the subjects was about thirty-six years, it is now possible to give a tentative answer to our second question—how gifted children turn out.

In the first place, they show no tendency to die young; thus far their mortality rate is only four-fifths of the normal expectation. The insanity rate and the suicide rate approach the normal expectation more closely but are still slightly on the low side. The incidence of delinquency is extremely low.

The marriage rate equals that for the general population and is far above the rate for the generality of college graduates. Both marital adjustments and all-round social adjustments compare favorably with those of less selected groups.

Intelligence tests given them in 1940, when the average age of the group was thirty years, gave a mean score nearly a standard deviation above the average of college graduates and not far from the average for those holding the Ph.D. degree. Except in a minority of cases, half or more of such regression as had occurred could be accounted for in terms of errors of measurement and failure of the adult tests to measure exactly the same mental functions as were measured by the childhood intelligence quotient. As a rule, intellectually superior children become intellectually superior adults.

This superiority is reflected in the occupational status of the group as measured by the Minnesota Occupational Scale. By 1945 half of the men were in Group I (the professions) and nearly a third in Group II (the higher business occupations). These figures are seven or eight times the normal expectation for a random group. At the other extreme, only 4 per cent were in the four lower occupational classes combined, as compared with half or more of the generality of employed males. The number of college teachers (seventy-five), lawyers (eighty-two), and physicians (fifty-two) is in each case twenty or thirty times the normal for a random group.

The educational records of the group also contrast strikingly with those of the general population. Almost 90 per cent entered college and almost 70 per cent graduated, each figure being about eight times the corresponding figure for the general population of their generation. Nearly a third of those who graduated did so with honors. Approximately two-thirds of those graduating continued for one or more years of graduate work. The number who took graduate degrees *beyond* the M.A. is about 250. This is about one-fourth of those who graduated and nearly 18 per cent of the entire group, including those who never entered college.

But good as the educational records were, they should have been far better. The figures given are more significant when they are read in reverse. All of these subjects were potentially superior college material, yet more than 10 per cent never entered college, and more than 30 per cent never graduated. In a few cases college attendance was prevented by ill health and in several cases by the necessity of leaving school to help support the family; in many more cases the high schools either failed to recognize the gifted student's potentialities or failed to give the needed encouragement and intellectual stimulation.

For the mediocre or inferior work done by all too many who entered college, the college too must share the blame. During the period when most of these subjects were in their middle or late teens, there was relatively little effective counseling or guidance either in high schools or colleges, and we are told that this is often true even today. On the basis of scholastic aptitude, at least twice as many members of the group should have graduated with honors as did so. Apart from reasons of physical or mental health, none who entered college should have failed scholastically. Actually fifty-three men and ten women flunked out in their undergraduate years, and five men and two women did so in their graduate years. The intelligence quotients of these ranged from 135 to 179, with an average of 151, and their intelligence scores were still very high as adults. Nearly half of the men who flunked out returned to graduate later, and several took a graduate degree.

The causes of failure or low grades in college are many, and in most cases more than one factor appears to have been involved. On this matter we quote the following passage in the volume referred to.

The most common explanation given by the subjects was that in high school they had made high marks without doing any serious work and that in college they underestimated the amount of work necessary to secure passing grades. A few stated that in high school they had developed feelings of social inferiority because of being younger than their classmates, and that on entering college they decided to make good their deficiencies in this respect by going all out for popular activities and the pursuit of leadership. Some of these cultivated an adult swagger, lied about their ages, and affected complete indifference to scholastic marks. Both in high school and college some of the subjects developed an understandable loathing for the reputation they had acquired of being intellectually high-brow and, in some cases, admitted to us that they had often feigned ignorance in their classes in order to appear more like their fellow students.

A few said that they became disgusted with college because of instructors who discouraged initiative and permitted no latitude of opinion on controversial issues. There were a good many instances in which the poor record could be accounted for by lack of proper guidance in the selection of a major field. On changing their major to a field more in line with their interests such students often be-



came outstanding in their achievement. Not infrequently the trouble could be traced back to the elementary grades where the average subject in our group was held back two or three school years below the level to which he had already mastered the curriculum.<sup>6</sup>

A careful study of acceleration in the group was made in a search for factors that might be found associated with rate of school progress. Specifically, the accelerates were compared with the nonaccelerates for differences on such variables as childhood intelligence quotient, adult intelligence score, achievement quotients in the first eight grades, general health in 1922, 1928, and 1940, mental and social adjustment in 1922, 1928, and 1940, age at puberty, scholastic record in high school, the proportion graduating from college, age at graduation, scholastic records in college, participation in extra-curriculum activities, occupational status, number of avocational interests, the incidence of marriage, age at marriage, divorce rate, and score on a test of marital happiness.

On the basis of age at high-school graduation, the subjects were divided into three groups: those markedly accelerated (graduation before  $15\frac{1}{2}$  years); the moderately accelerated (graduation between  $15\frac{1}{2}$  and  $16\frac{1}{2}$ ); and those slightly or not at all accelerated (graduation after  $16\frac{1}{2}$ ). The respective numbers in the three groups were 62, 332, and 998. The mean ages at graduation were, respectively, 14.9 years, 16.0 years, and 17.3 years.

For the present purpose we have combined the first two groups (the accelerates) for comparison with the third group (the nonaccelerates). Mean age at high-school graduation was about 15.9 years for the 394 accelerates as compared with 17.3 years for the nonaccelerates. On the average the accelerates have skipped about three half-grades, and many of them have skipped as much as three full grades.

The first thing we note is that for the gifted group as a whole, with intelligence quotients from 135 to 200, the amount of acceleration bears little relation either to childhood intelligence quotient or to adult intelligence as measured in 1940. On both tests the accelerates averaged a few points higher than the nonaccelerates, but the difference was too small to be very significant educationally. The difference between the two groups in accomplishment quotient, as measured in Grades II to VIII by the Stanford Achievement Test, was about seven points in favor of the accelerates. This difference, although statistically reliable, is in absolute terms so small as to indicate that skipping or not skipping was usually dependent on the whims of the individual teacher or principal rather than

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<sup>6</sup> Lewis M. Terman and Melita Oden, *The Gifted Child Grows Up*, p. 157. Stanford University, California: Stanford University Press, 1947.

on the curriculum material the child had mastered or was capable of mastering.

Consider now the later educational records of the two groups. In high school the accelerates, although nearly a year and a half younger on the average than the nonaccelerates, were a little more likely to graduate with 15 or more "recommended" units. The proportion who graduated from college was about one-eighth higher for the accelerates than for the nonaccelerates, and, despite their lower age, the accelerates made higher average grades and more often graduated with honors. The proportion who completed one or more years of graduate work was more than one-fourth higher for accelerates than for nonaccelerates. Except in athletics, the two groups were about equally active and prominent in extra-curriculum activities during the college years.

Vocationally, the accelerates had made a markedly better showing by 1940; as compared with the nonaccelerates, about a sixth more of them were in one or another of the professions, and a third fewer were in the four lowest occupational classes in the Minnesota Occupational Scale. Of the men who graduated from high school before 15.5 years, 42 per cent were in the top fifth of all men for vocational success. The corresponding figure for men who graduated later than 16.5 years was 19.4 per cent, or less than half as great.

Incidence of marriage is almost exactly the same for the two groups, but the mean age at marriage is about three-fourths of a year lower for the accelerates. Two criteria are available as indices of marital adjustment in the two groups: (a) the incidence of divorce, and (b) mean score on a test of marital happiness. On both criteria the accelerates make a slightly better showing, although the difference is not statistically significant.

Physical health of all the subjects was rated in 1922 and 1928 on the basis of several items of information in the case-history material. At both of these dates the accelerates averaged slightly better, but the difference was reliable only for the 1948 ratings of the males. Self-ratings on general health in 1940 did not differ for the two groups.

The subjects were also rated both in 1922 and 1928 for nervous symptoms, again on the basis of several items in the case-history material. At both of these dates the accelerates rated slightly, but not reliably, better. The field workers' ratings of the subjects on general mental adjustment in 1940 also showed a small but unreliable difference in favor of the accelerates. The subjects were rated in 1922 and 1928 on social adjustment, but no reliable difference was found between the two groups at either of these dates. Age of puberty, as reported by parents, averaged about three-tenths of a year earlier for the accelerates than for the nonaccelerates.

Finally, a comparison among the acceleration groups with respect to their avocational interests and their interests in twelve specific fields was made. No significant difference was found in the frequency with which any given avocational activity was mentioned, in the total number of avocational activities, or in the self-ratings for interest in twelve fields. Even marked acceleration appears to have little or no lasting effect on the number of avocational interests and no narrowing effect on range of interests.

The controversy on the advantages and disadvantages of acceleration hinges on the relative weight that should be given to intellectual and social values in the educative process. If the child's intellectual welfare were the sole criterion, then promotion ought to be based primarily on mental age, since it is this factor that chiefly determines the intellectual difficulty of the school tasks one is able to master.

Although children can, and often do, achieve remarkably in spite of being denied the special promotions they have earned, a considerable proportion of those in the gifted group languished in idleness throughout the grades and high school and failed to develop the ambition or habits of work necessary to make them successful in college. The question is, how much risk of social maladjustment one can afford to take in order to keep the gifted child at school tasks difficult enough to command his attention and respect. The data here reviewed indicate that the risk of maladjustment in moderate acceleration is much less than is commonly believed.

Often, however, in the traditional school the choice between acceleration and nonacceleration is unavoidably a choice between evils, each of which needs to be weighed against the background of the individual child's personality. No universal rule can be laid down governing the amount of acceleration that is desirable. Some gifted children are less likely to be injured by three or four years of acceleration than are others by one or two years. Important factors are the child's social experience and his natural aptitude for social adjustment. So far as physique is concerned, perfect health is probably less crucial than physical maturity or even mere size.

Sumption's study <sup>7</sup> indicated that a program for the gifted based on enrichment produced superior results in comparison with the general school program. It is reasonable to assume that a combination of enrichment and moderate acceleration will produce best results in the majority of cases.

The amount of enrichment possible is usually limited by lack of special teachers, a dearth of time and inventiveness on the part of the regular

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<sup>7</sup> Merle R. Sumption, *Three Hundred Gifted Children*. Yonkers-on-Hudson, New York: World Book Co., 1941.

teacher, and lack of facilities on the part of the school. No cases of too much enrichment have been recorded. If a broadly enriched program is offered the child during his first six or seven years in school he will be challenged to build a background of experience which will stand him in good stead for future acceleration. Meanwhile, he will have an opportunity to mature socially and physically so he will not be at a loss to adjust as he moves ahead more rapidly in subsequent years.

As has been indicated earlier, the typical gifted child will encounter little hardship in entering high school at the age of twelve or thirteen and graduating at fifteen or sixteen. The normal college course of four years leading to the bachelor's degree can be completed in three years and thus enable the gifted student to enter graduate school or begin his professional or vocational career at nineteen years of age. This conclusion is supported by the studies of Pressey and his associates.<sup>8</sup>

The addition to human resources and the elimination of educational waste possible under such a plan is incalculable. Three years could thus be added to the productive life of these boys and girls whose potential is so high.

In the final analysis there is no conflict between enrichment and acceleration. They complement each other in the best educational program for the gifted child.

#### SUMMARY STATEMENT

1. For centuries society has recognized the value of providing exceptional educational opportunities to gifted youth, but for the most part such provisions have been sporadic and inadequate.
2. Equality of opportunity demands that each child be given the type of education which best meets his needs and capacities. This principle is violated when a gifted child is forced to accept an education which does not take into account his superior ability and give him an opportunity to develop it.
3. In terms of social welfare, the effective education of gifted youth is imperative. It is folly for society to fail to utilize its most able human resources.
4. In general, gifted children do not cause trouble in school. Perhaps, unfortunately, they tend to adjust to the program set up for the normal child and work along with a minimum amount of effort and little opportunity to develop their full powers. Probably this is one factor contributing to the greater neglect of this type of child as compared to the mentally retarded, the speech defective, and the socially delinquent.
5. The objectives in the education of gifted are the same as for other children. The difference lies in the greater emphasis placed on creative effort, intellectual initiative, critical thinking, social adjustment, social responsibility, and the development of unselfish qualities of leadership.
6. The first problem for educators is to discover gifted children. This may not

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<sup>8</sup> Pressey, *op. cit.*

always be an easy task. At present a combination of standardized tests, teachers' judgments, and classroom performance probably offers the best means of finding them.

7. The second step, that of providing an enriched educational program for the gifted, is more difficult than discovering them. Yet it is essential that these children have sufficient opportunities to develop their abilities above and beyond what is called for in the normal school program.
8. Enrichment may be serviced through special schools, special classes, or individual attention as the demands of different situations dictate. The authors of this chapter recommend that wherever possible special classes be organized for the education of gifted children. In cases where the individual instruction plan is adopted, a specially trained supervising teacher is recommended.
9. Moderate acceleration, particularly in high school and college, is not inadvisable when the individual is socially and physically mature for his age. Especially is this true where there are no enrichment opportunities for the gifted child. It is quite possible and desirable to save one or two or even three years of the individual's educational life when he is well advanced in social and physical maturity. Except in unusual cases, such acceleration should probably take place in the latter part of the educational program.
10. No program of education for any type of exceptional child offers greater possibilities for the social welfare than does an effective educational program for the child with superior mental ability.

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CHAPTER XV

SPECIAL SCHOOLS AND CLASSES FOR  
THE SOCIALLY MALADJUSTED

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INTRODUCTION

While there is no single term which appropriately defines and describes all the types of atypical children, the term "exceptional" has been selected as the most suitable. This term is applied to children who are "physically handicapped," "mentally different," or "socially maladjusted." This chapter is concerned with those who are "exceptional" because of their notable failure to adjust themselves to the behavior pattern of ordinary school situations. There is somewhat greater confusion of terminology in this phase of special education than in those dealing with physically and mentally handicapped children.

The problem of classifying the socially maladjusted is complicated by the fact that the reasons for their behavior deviations are frequently related to physical handicaps, mental differences, or educational disabilities. The handicaps of children with physical and mental deviations are more distinct and clear-cut than are those which characterize the socially maladjusted.

The failure of a child to make a proper social adjustment sometimes arises from conditions within the individual. At other times such failure is due to external influences, the effects of which are not known or understood by parents or teachers. Total blindness, deafness, or severe orthopedic crippling are obvious reasons for major deviations from normal behavior. In contrast, the emotional and psychological factors in an apparently normal or nonhandicapped child who is socially maladjusted are neither readily seen nor understood. The public is likely to pity and make allowances for the child with a gross physical handicap, but the child who is a behavior case is more likely to provoke feelings of resentment and anger; and these may, in turn, further aggravate his lack of social ad-

justment. As a result of recent research and the accumulation of information from years of intelligence testing, children who are classed as mental deviates are now receiving effective educational treatment and understanding care. Child study methods must do as well in developing diagnostic procedures and remedial treatment which will serve the same purpose in behavior and social diagnosis as that of intelligence and educational tests or tests for visual and auditory acuity in their respective fields.

#### SOCIALLY MALADJUSTED DEFINED

Since "mal" means "bad," the term "maladjustment" has a negative connotation which is more directly related to ethical precepts than to social or psychological concepts. Psychologists have insisted that all behavior on the part of an organism is an attempt to adjust by reducing the tensions that cause dissatisfaction. Hence, day-dreaming on the part of a child, although considered a symptom of maladjustment, is really a tension-reducing mechanism. Likewise, aggressiveness, lying, and stealing are attempts to reduce tension. Thus, all behavior can be considered adaptive behavior if it succeeds in reducing tension, even temporarily.

One method of defining social maladjustment on the part of an individual is to think of it in terms of adequate or inadequate behavior. When a child's behavior does not interfere with his personal growth or with the lives of other people, we may consider that behavior adequate. When the behavior, such as extreme day-dreaming, interferes with his learning and interpersonal relations, or when it interferes with the lives of others, in the case of bullying or stealing, we may consider it inadequate behavior, or a type of social maladjustment. Hewitt and Jenkins<sup>1</sup> have identified three fundamental patterns of maladjustment. These are exemplified in the behavior of (a) the unsocialized, aggressive child, (b) the socialized delinquent, and (c) the overinhibited child. The unsocialized, aggressive child is defined as the child, more often a boy than a girl, who is aggressive toward all his associates, who shows loyalties to no one, and who has usually encountered an attitude of rejection on the part of his mother and perhaps others from early childhood. The socialized delinquent, on the other hand, has had an initial acceptance but has been rejected later; while aggressive to society and its accepted standards, he has strong loyalties to his gang or group. The overinhibited child is one who has been subjected to a very repressive environment and has had his life controlled by his mother or by both parents and has never had a chance to develop an individuality and to make proper social ad-

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<sup>1</sup> Lester Eugene Hewitt and Richard L. Jenkins, *Fundamental Patterns of Maladjustment: The Dynamics of Their Origin*. Springfield, Illinois: State of Illinois, 1946.



justments. More girls are found in this group than in the first two types reported by Hewitt and Jenkins. The study has value because it points out the great importance of the influence of the early years of the maladjusted child's life and because it indicates the deep-seated nature of much of a child's maladjustment.

Behavior of children may vary from minor disturbances to acts of violence classified as crimes. The former often have no deep-seated causes while the latter are usually steeped in mental conflicts and severe emotional tensions. Probably the greatest contribution which the child study and mental-hygiene movement has made in this field of education is a realization on the part of teachers and others that the child who is a behavior problem or a socially maladjusted child should be considered an object for study rather than for punishment. Furthermore, in so far as a study of children will help, it is far wiser to prevent problems from becoming acute than to introduce clinical and other external correctives into the educational program after the problem child has become a truant or delinquent.

The term "socially maladjusted" usually includes those children who are spoken of as truants, delinquents, incorrigibles, behavior-problem cases, predelinquents, and pretruants. Some authors include the emotionally unstable, the nervous, the psychotic, and the withdrawn, negativistic child who does not fit into a social group. Most educators consider any child socially maladjusted who is characterized as a truant, delinquent, or incorrigible. This chapter is concerned primarily with those who are so severely maladjusted that they need special educational services either in special groups or in the form of guidance from especially trained personnel in addition to that given by regular teachers. Among the more seriously maladjusted are truants and delinquents who often are educated in special classes, special day schools, or custodial schools and others who are potential truants and delinquents. Also, the children who can be defined as behavior problems and are known to be in need of the services of a special-education program are to be considered. Furthermore, many socially maladjusted children suffer from severe educational disabilities, and the correction of such disabilities must be considered.

#### IDENTIFYING THE SOCIALLY MALADJUSTED

Finding the socially maladjusted children in a school or school system is a difficult problem. Surveys of the behavior-problem cases show considerable variation in the percentage of the school populations which may be considered as in need of special educational provisions because of their failure to adjust to normal school life. Because of differences in opinion about the classification of children as socially maladjusted, survey re-

ports indicating the proportions in which the several types of exceptional children may appear in school populations are not entirely comparable. Variation in the percentage of cases will be found from city to city, depending upon the size of the community and the economic and cultural status of the population. The cases identified as maladjusted are not always selected in accordance with the techniques recognized in the fields of psychology, psychiatry, and education. Only a small part of the total problem is studied in many school systems. In small communities and rural districts the problem is practically untouched.

### Distribution of Maladjusted Children

Socially maladjusted children are found in all grades from kindergarten to the college, and their problems vary in some respects with the age of the individuals. There are likely to be misconceptions about the frequency of behavior problems at different ages because schools and parents are more aware of the extreme problems of older children and often overlook those of young children. Some types of behavior problems do not receive special consideration for the reason that only those acts which are irritating or disturbing to the home or school are apt to be reported. A survey involving 1,357 children in Detroit elementary schools revealed that approximately 1 per cent of the total enrolment would be classified as behavior problems. It was also noted that about 85 per cent of the problem cases were boys.<sup>2</sup> There was an average of about seven behavior cases per school. When these pupils were rated on the basis of a selected list of twenty-six behavior characteristics, it was found that the average number of objectionable traits was 6.8 per pupil. There was also a preponderance of aggressive behavior, such as fighting and defiance of authority, rather than of recessive traits such as seclusiveness or timidity.

### Selection of Cases

Agencies within the community or school which have been established for the study of behavior and which are able to identify and diagnose socially maladjusted children are known by various names—child study departments, psychological clinics, child guidance clinics, mental hygiene departments, and institutes for juvenile research. In all of them the emphasis is upon the adjustment of children to their environment. School systems also provide the services of attendance departments, visiting teachers, school counselors, and others, with more emphasis upon school attendance and adjustment to school conditions. There is no adequate

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<sup>2</sup> H. J. Baker and V. Traphagen, *The Diagnosis and Treatment of Behavior-problem Children*, pp. 370-77. New York: Macmillan Co., 1935.

substitute for the professionally trained staff of a good child guidance clinic for identifying and diagnosing the difficulties of socially maladjusted children.

The initial referral of cases needing study is the responsibility of teachers, principals, and other school workers. These pupils should then be studied by psychologists, psychiatrists, physicians, and neurologists, according to their individual needs. These specialists are more interested in fundamental causes than in the behavior itself. For example, a pupil who disturbs a teacher by restlessness and constant annoyance may be found by an expert examining staff to offer no fundamental psychological or psychiatric problems. Nevertheless, such a case may be a real problem to a classroom teacher with thirty or more other pupils. On the other hand, a child who is of a retiring disposition may be a potential problem case in the opinion of the expert and yet, by reason of causing no disturbance in school, will not be considered a problem by his teacher. Teachers must accept the fact that, while there is much that they can do, they are not experts and must be willing to call upon specialists in behavior-problem cases in much the same way they would call upon a surgeon in a case of physical difficulty. Furthermore, even though a scientific staff may find no basis for diagnosis or study, they should be willing to make recommendations in practical terms which teachers and lay educators can interpret and apply in the correction of difficulties.

#### Elements of a Program of Identification

The important elements of a good program of diagnosis include: (a) providing means for the initial referral of cases by teachers or parents; (b) gathering the important data relating to the case; (c) evaluating the effects of observed conditions upon the child's behavior; (d) making suggestions of remedial measures to improve the child's adjustment; and (e) re-evaluating the case to see if the difficulty has subsided. Good diagnostic procedures for identifying socially maladjusted children must provide facts as to the child's intellectual capacity, for which purpose psychological tests will be required. In addition, personality and adjustment inventories should be made. No accurate identification of a socially maladjusted child is possible without using case-history methods. The case history should contain personal data secured from the parents, the child, the school, and other sources, facts concerning the health and physical conditions of the child, information about his personal habits and recreational interests, teachers' impressions of the home atmosphere, and facts concerning the child's school adjustment. Only when such facts in the individual case are known can they be effectively evaluated as to their effect on the child's behavior.

## CHARACTERISTICS OF SOCIALLY MALADJUSTED CHILDREN

Studies of the characteristics of socially maladjusted children indicate that there are many factors which affect their behavior. However, no one or two factors can account for the maladjustment. It is the combination of many factors within and without the child's individual personality, with the interplay and reaction of those factors on the life of the individual, that produce the problem child. In general, maladjusted children differ from normal children less in the kind of deviation which marks them as exceptional children than in the degree of difference in personal characteristics. Their behavior depends upon the reaction of a particular kind of living organism to the impact of environmental forces which occur at a time or in a manner likely to produce antisocial behavior.

The earliest years of a child's life are of great significance in determining his later social adjustment. The roots of much of a socially maladjusted child's behavior can be traced back to the days of babyhood, and those concerned with educating socially maladjusted individuals must be appreciative of the early childhood experiences of such persons. Most influential in the early history of problem children is the life of the family, the relationships among its members, and their ideals. Very often the socially maladjusted child is one who feels unwanted, unloved, discriminated against, unjustly condemned or punished, and unrecognized as an individual having rights and needs. The school, therefore, may increase or diminish the dissatisfactions that tend to produce maladjustment. The above facts are true for both city and rural children. Teachers must project themselves into the life situations of maladjusted boys and girls so that they can make a most sympathetic response to the needs of such children.

## Sociological Characteristics

Neighborhood patterns play a part in producing socially maladjusted school children and are an indication that the school must reach out into the community if it is to adequately care for those who fail to adjust socially. Many problem children are also engaged in street trades. Shoe-shine boys, employees of bowling alleys, and newsboys, especially if employed at late hours, are in greater danger of becoming problem cases than are other children. Some of the conditions that tend to make a child react in an antisocial way are the conditions of poverty, a broken home, the lack of church ties or of membership in other socially acceptable groups, the presence of vice and crime and other conditions that increase the hazards of a happy childhood, and affiliation with a minority or marginal group of antisocial aims. Kvaraceus<sup>3</sup> reports that in both Trenton

<sup>3</sup> William C. Kvaraceus, *Juvenile Delinquency and the School*, p. 99. Yonkers-on-Hudson, New York: World Book Co., 1945.

and Passaic, New Jersey, the number of children dealt with by the Bureau of Juvenile Aid varies in inverse ratio to the rental value of average dwelling units in the tract from which the child comes. In other words, the highest delinquency rates are to be found in the poorest neighborhoods. Psychiatrists are pretty well agreed that, while poverty may not be a direct cause of antisocial behavior, there are conditions which help prevent the well-advantaged child from becoming maladjusted. Children from homes with higher economic advantages have many ways of carrying out their aggressions without coming into conflict with society. Camp life, a place to run and play, and gadgets that invite manipulation all tend to cut down the amount of maladjustment in young people from good homes. If they do become behavior problems, they can be sent to private schools or given other advantages which obviate the need for intervention by the authorities. The broken home is a factor because it frequently has relatively few facilities for handling the problems of its children. Children lacking church ties or wholesome organizational ties of other kinds more readily fall under the influence of persons and agencies antagonistic to aims of social and individual welfare.

#### Physical Characteristics

The typical truant, incorrigible, or delinquent pupil is usually one of the early adolescent age. The adolescent is more vulnerable than his older or younger brother and is more easily affected by problems and stimuli. Maladjusted boys outnumber maladjusted girls something like four to one. Moreover, children's problems vary with the age level of the individuals considered. Sherman<sup>4</sup> notes that in young children the types are temper tantrums, negative behavior, babyish behavior, and pugnacious tendencies. With adolescents the problems are likely to be feelings of inferiority, truancy, and acts which are antisocial in nature. Physical factors, in addition to age, which may characterize the socially maladjusted include glandular imbalance, oversize or undersize, and handicaps which prevent the child from taking part in all the activities of normal children of their age or which may make them unacceptable to their fellows or cause them to feel unwanted by the group.

A study of problem boys enrolled in the Montefiore School of Chicago revealed that they suffered from more than the average number of physical defects compared with an equal number of boys enrolled in regular schools living in the same neighborhoods. While there is not necessarily a causal relationship between poor physical health and poor social adjustment, the physical defects of the socially maladjusted individuals must

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<sup>4</sup> Mandel Sherman, *Basic Problems of Behavior*, pp. 334-36. New York: Longmans, Green & Co., 1941.

be considered when the school attempts to educate them. It seems particularly significant that the problem boys suffered more from hypertrophied tonsils, adenoids, glandular disturbances, poor dental care, and malnutrition than the boys of the regular schools. It indicates at least that homes and neighborhoods producing more of the problem children also do less for the physical welfare of those children than is done for children living under more favorable circumstances. The school, therefore, in meeting the problem of educating socially maladjusted children must make more than the usual provision for the physical welfare of those who are problems because of their behavior.

### Psychological Characteristics

While children of all levels of intelligence are found in the ranks of the socially maladjusted, studies of behavior cases<sup>5</sup> show the peak of the distribution of intelligence quotients to be about 85, or in the dull-normal group. Types of social maladjustment are often found in school. In fact, school failure is frequently the main point of emphasis. The greater frequency of behavior disorders among the dull-normal pupils may be explained by the fact that they are bright enough to know how to make trouble but not intelligent enough to foresee the possible consequences. Attendant circumstances may also explain why the dull individuals are more likely to become maladjusted; their social backgrounds are generally poor, their homes have less favorable ideals, and, even though they are able to do the work of the regular classes, they do it with little satisfaction to themselves. As a result, they become discouraged and seek outlets not socially acceptable to school and society. Other psychological characteristics are anxiety neuroses, greater susceptibility to nervous strain, hysteria, sadism, machochism, narcissism, an Oedipus complex, and homosexuality.

### Educational Factors

Other characteristics of socially maladjusted children, especially those who manifest aggressive behavior, are that their school histories are filled with accounts of unwholesome, unsatisfactory, unhappy, and frustrating situations. They usually have attended more than the average number of schools, have often transferred from public to private or from private to public schools, their retardation is often unusually high, and low school achievement and poor school marks predominate. Furthermore, there is usually a dislike for school, a dislike for teachers, and a tendency to leave school as early as possible. No doubt many truants use truancy as an escape from their conflict with school practices and from

<sup>5</sup> H. J. Baker, *Introduction to Exceptional Children*, pp. 355-56. New York: Macmillan Co., 1944.

their repeated failures in school work. Moreover, socially maladjusted school children have great difficulty in achieving desirable social relationships in school.

#### SPECIAL NEEDS OF THE SOCIALLY MALADJUSTED

All children are alike in many ways, even though some of them have handicaps or lack the ability to make satisfactory adjustment to their environment. Socially maladjusted children need proper food, shelter, and clothing; they want to play, be recognized, be loved, and feel secure just as normal children do. Even though they do have the same basic needs, socially maladjusted children have special needs. Some of these are found in their environment and others in their own makeup. The number of cases in which there is a "family-child" conflict and in which the broken home is encountered suggests that the school should seek in its contacts with the child to make a thorough analysis of parent-child relationships to find some of these special needs. The fact that often other members of the problem child's family have court records and are known to more than the usual number of social agencies indicates special needs in the home environment. Some girls become problems and truants because they cannot dress as well as their schoolmates; some boys become problems because they lack the means to do the things their fellow pupils do. The lack of spending money or the desire to drive a car as other boys do often leads to delinquencies to attain the means of becoming socially acceptable. Economic difficulties tend to create tensions which affect the family life and produce problems against which children often rebel and then express their antagonism by becoming antisocial.

#### Special Needs in Meeting the General Objectives of Education

The same general objectives of education that apply to all children apply to socially maladjusted children. The Educational Policies Commission has outlined the four main objectives of education to include self-realization, human relationships, economic security, and civic responsibility. Educators are challenged to meet and realize these objectives when special provisions are made for educating those who are problem cases because of their failure to adjust socially to the world in which they live. The behavior-problem child cannot reach the highest goal of self-realization of which he is capable because of defects of character and because of conditions found in his environment over which he and his family have no control. Inasmuch as the maladjusted pupil may lack the very tools with which to attain self-realization, the significance of a program of special education suited to his needs and abilities is apparent.

Right human relationships cannot be established without friendship,

co-operation, and a sense of belonging. These basic factors are difficult to achieve if the individual feels rejected or if he is accepted only in an apologetic way. Thus, many of the things which are taken for granted in the education of the normal child for the establishment of good human relationships must be developed in socially maladjusted children before they can take their place in society. It is also difficult for the problem child to achieve economic efficiency. Too often he belongs to that group who are "last hired and first fired." His folks usually have a limited income; they "live on the wrong side of the tracks" and in areas where needs are greatest but resources most meager.

For socially maladjusted children to attain the goal of civic responsibility is probably the most difficult of all the objectives of education. The very factors which produce social maladjustment often make it almost impossible to develop civic responsibility. Truants, incorrigibles, delinquents, and behavior cases are all in active rebellion against society. Their behavior and personality maladjustments show evidences of such conflict even at an early age. Special education has the task of helping to change society's attitude toward the socially maladjusted child, to better the conditions in his environment, and to change his reaction toward life so that he can realize the objective of civic responsibility.

### Deficiencies in Cultural Background

Some special needs of socially maladjusted children are found in their cultural backgrounds. It is a common observation that social problems occur with less frequency among families of skilled workmen and professional people than they do in families of unskilled workers. Gainful employment on the part of mothers also creates additional special needs on the part of children. Densely crowded conditions of living, inadequate space for living and play, and the lack of privacy are other conditions which underlie the special needs of the socially maladjusted. The fact that families of problem children tend to change their residence frequently is also a significant factor in relation to their social needs. It deprives the child of a sense of stability and security, necessitates frequent transfer to a new school, and leaves the individual without a sense of belonging to any one group.

In every community, resources exist which provide character-training to supplement and reinforce that provided by the family and the school. These are the church, which develops an appreciation of spiritual and ethical values, and recreation and group work agencies, which give opportunities for sharing experiences and for developing a sense of co-operation and an appreciation of the rights of others. Any failure of these community resources to serve as an influence for good gives rise to special needs



of problem children. Too often such needs are met by the formation of the neighborhood gang, largely a boy's institution, whose activities increase the amount of delinquency, truancy, and antisocial behavior.

### Special Psychological and Physiological Needs

Other special needs are found in the psychological and physiological aspects of the child's life. When children find that they cannot compete with their fellows on equal terms because of physical handicaps, psychological differences, or subject-matter disabilities, they often become problem cases. If a child never experiences the feeling of success from participation in the regular activities of the school, he frequently seeks relief in truancy or in attempts to gain recognition by committing overt acts of misbehavior. Without success, such a child cannot achieve even as much as his limited capacity permits. The needs of such children must be met in some special way by all schools and met early in the school experience if more serious problems are to be prevented. Special education and the school in general have a responsibility for compensating for the environmental and personal needs of children. The school must reach out into the community as well as down into the life of the problem child if it is to meet his special needs.

### EDUCATIONAL PROGRAM FOR THE SOCIALLY MALADJUSTED

The agency in every community which has the capacity for dealing most effectively with the problems of socially maladjusted children is the school system. In the first place, schools and teachers of the present day are professionally concerned with individual children and their problems. Second, they are becoming increasingly democratic in their dealings with children, giving them practice in democratic citizenship and in learning the ways of living together in an acceptable manner. In common with the home, the church, and the social-service agencies, the school is directing its efforts toward the building of character in youth more than it did a generation or two ago when it was primarily concerned with the intellectual development of young people.

Surveys of current provisions for socially maladjusted children in the schools reveal several general modes of attack. The different levels of operation from the simplest to the most complex type include the following personnel and services: (a) the work and responsibility of the regular classroom teacher in preventing and correcting social maladjustment; (b) the employment of a counselor to assist the teacher when she fails or does not know what to do; (c) the professional services of visiting teachers, school psychologists, and medical consultants; (d) the organization of a special class to try new and different techniques; (e) the establishment of special schools, such as are found in large cities like Chicago, Detroit,

and New York; and (f) the use of the custodial school, supported by the city or state. The values secured from the services enumerated depend upon the qualifications of the personnel employed, the curriculum modifications that are effected, the special facilities and equipment they are able to obtain, the types of records they keep, and the kinds of therapy on which they rely.

### Services of the Classroom Teacher

Almost every teacher faces the responsibility from time to time of helping to identify the socially maladjusted child, since many of these children remain in regular classrooms for a year or more before their problems are recognized. The regular teacher can do much to give these children a chance to develop into good citizens, to learn the meaning of civic responsibility, to cultivate the spirit of tolerance, and to acquire a measure of economic competence. The classroom teachers have a responsibility for preventing as well as for correcting social maladjustment. They must see that it is the business of education not only to teach children what they would not otherwise know but also to help them behave in the way their families and friends expect them to behave.

The organization of the regular classroom and the challenge it presents to the interests, activities, and loyalties of children and youth are important factors in the education of socially maladjusted children. For example, if dull or slow-learning pupils must meet fixed curriculum requirements before promotion and if they are held back year after year until they are social misfits, truancy, incorrigibility, or some other type of delinquency is apt to follow. On the other hand, if more individual instruction and better teaching methods can advance such children with their social group, much trouble can be avoided. Teacher load, report cards, departmentalization, and pupil discipline are other factors in the regular classroom program which may influence the behavior of maladjusted children.

### The Counselor

Whenever a regular classroom teacher fails or does not know what to do, provision is sometimes made for a counselor in the school system to assist the teacher in providing for the maladjusted child. The counselor may be a person who is especially trained for such work or he may be the principal, the superintendent, or a supervisor. The counselor may act as a consultant to teachers and parents in dealing with types of behavior which are indicative of maladjustment. He may also work directly with the children in helping them make choices and solve problems that arise in school life. The counselor plan, if properly organized and adequately supported, works well in rural areas and in smaller cities. The program recently developed in Illinois by the state department of public instruc-

tion illustrates the advantages of using state funds in developing a program in areas where the number of maladjusted children does not warrant the establishment of a special class or school.

### Use of Specialized Services

Special-school services that supplement and facilitate the work of the regular teacher are an important educational provision made by schools for preventing and correcting social maladjustment. By special-school services are meant the services of those departments, bureaus, divisions, or other organized services in a school or school system which provide direct assistance to pupils or to their teachers and parents. Among such organizations are child study departments, child guidance clinics, psychological bureaus, pupil personnel divisions and others. They employ pediatricians, psychiatrists, psychologists, school social workers, home and school visitors, and attendance supervisors. All these services supplement and support the instructional program and the activities program of the classroom or school.

Child study departments and psychological bureaus usually assist with problems arising from learning difficulties, personality problems, and family maladjustments. The psychologist is particularly concerned with the adjustment of the curriculum to the mental capacities of problem children and with teaching techniques that will facilitate learning.

Home-school visitors and school social workers try to bring homes and schools closer together in the effort to understand and to serve these children. This type of pupil-personnel service co-ordinates the social worker's case-work techniques and the teacher's point of view and knowledge of the school program. Through specialized training in social service, the social worker is prepared to help with the child's social and emotional problems.

All special services should afford the school the services needed by teachers in helping children realize their maximum potentialities. Basic to any successful pupil-personnel program is a continuous census of all the children of a district, providing information concerning age, handicaps, and special problems. Attendance officers, the first pupil-personnel workers to appear in schools, were concerned primarily with enforcement of attendance laws; and while some need for this service still exists, they are being replaced by the visiting teacher or school social worker who is interested not only in enforcing attendance laws but also in determining the reasons for absence and in removing its causes. The school doctor, dentist, and nurse are concerned primarily with the physical aspects of the maladjusted child's development while the psychiatrist concentrates his efforts on emotional growth.

All the large school systems provide something in the way of child study bureaus, attendance departments, and psychological services to aid teachers and administrators in dealing with problem children. The psychological clinics in Detroit, Los Angeles, and Philadelphia and the Bureau of Child Study in Chicago are typical of the clinical services available in the larger city school systems. *Clinical Organization for Child Guidance within the Schools*, published by the United States Office of Education as Bulletin No. 15, 1939, gives an excellent description of types of programs for child guidance in the schools.

### The Special Class

The special class or special room in a regular school is another plan for educating the socially maladjusted. Such classes are among the oldest forms of school facilities organized to meet this problem. Special classes have sometimes been organized in order to relieve regular classroom teachers of their "bad boys and girls," the reason why a child misbehaved being ignored. The special class should be so organized that it will make it possible for the special teacher to discover the causes of the maladjustment and to remove those causes. Such classes should not be called the "disciplinary class" but merely known as a placement class or other appropriate designation. Admission to such classes should be by transfer or school placement and not by formal commitment; and under no circumstances should transfer and placement be regarded as a matter of punishment. The size of such classes should be small and the group should be kept as homogeneous as possible, particularly with reference to the social ages of children enrolled. The school work to be done should depend upon the individual needs of the members of the class, and opportunities should be offered for pupils to try out various courses.

The special class affords an opportunity for school systems to determine the best procedures for dealing with the socially maladjusted by working on such specialized techniques of education—psychotherapies, play therapies, nondirective counseling, and psychodramatics. In general, little has been done in these areas, and the organization of special classes for problem cases offers the opportunity for scientific studies that should yield notable contributions to progress in the education of socially maladjusted children.

### The Special School

Some school systems within the past three decades, particularly those in the larger cities, have established special schools for socially maladjusted children. While at first thought it might seem that the behavior problems of such children would be intensified by transfer to a special school, it has been the experience of these schools that serious types of

misbehavior are diminished. This is no doubt due to the fact that the special school concentrates on remedial measures, gives more attention to physical and mental health, and maintains a competent staff of teachers of remedial reading, social workers, psychologists, and other adjustment workers. The special educational program is adapted to the particular needs of maladjusted individuals, with emphasis upon activities that prove an effective antidote for emotional disturbances. Special schools for social adjustment usually enrol only pupils who are so maladjusted as to need careful mental and physical examinations. These schools make it possible for the maladjusted to enjoy success in school work instead of experiencing the accumulation of feelings of failure which characterized their work in the regular schools where their unusual needs could not be met. Such schools should not be called "truant schools," or "disciplinary schools" or "industrial schools." The last title does not properly describe the function of the special day school. At least industrial courses should not be emphasized to the exclusion of regular academic work. Such schools should be located so that they can be reached conveniently from all parts of the city and should not be placed in unfavorable neighborhoods. School transfer rather than court commitment should govern admission. Placement should not be considered as punishment; rather, the decision to place a child in a special school should be based upon the fact that the evidence indicates that such placement will be of material benefit to him.

Special schools should provide a variety of curriculum offerings. Academic work is needed in English, mathematics, science, and social studies. Courses in woodwork, general metal work, electric shop, automotive shop, print shop, crafts laboratory, cartooning, and general mechanics are usually offered for boys. Homemaking, hairdressing, personal grooming, sewing, cooking, and typing are usually offered in the special school for girls. Other courses found in both boys' and girls' schools are music, art, and physical training. Teachers in such schools should have special training, wholesome personalities, and ability as instructors. Excellent craftsmanship should be a requirement for those who teach shop courses. All such schools must make provision for vocational, educational, and personal guidance. In fact, the special school for the socially maladjusted should be a combination of a special school and a child guidance clinic.

The weakest point in most special-school programs is the lack of proper placement procedures and adequate follow-up of the pupils after they leave the school. Discipline in the better schools is no different than that found in the best elementary or secondary schools. Systems of penalties and merits or credits as bases for determining the length of stay in a special school are of no value because they imply placement in the school as

a punishment for wrongdoing. In addition to the regular and remedial work in school subjects and the special services for emotionally disturbed children, all special schools need more systematic provision for the rehabilitation of the pupils, more study of the variety of causative factors that produce maladjustment, truancy, and delinquency, and better provision for the child's re-entry into the normal life of society, including his return to the regular school. No special school can do these things if it does not make curriculum modifications, provide special equipment, including proper clinical office space, and keep adequate cumulative records of the work and interests of those enrolled.

The probationary schools of New York City, the Moore School of Detroit, and the Montefiore School of Chicago are typical day schools for educating truant and problem boys and girls. The Montefiore School has an extended day program, operates for twelve school months, and has separate branches for boys and girls. It employs such specialists as psychologists, psychiatrists, social workers, and dentists as well as carefully selected personnel for teaching positions. The program of the school is enriched and modified to fit the needs of problem boys and girls, and much attention is given to proper diagnosis and to remedial teaching.

### The Parental or Custodial Institution

Parental schools or custodial institutions are of different types. A few of the school systems in the largest cities maintain parental schools; some counties maintain special residential schools; and many states have "training schools" for both boys and girls. Such institutions are used when it becomes necessary to remove children from the home and the regular school and whenever satisfactory foster-home placement is not possible. The parental or custodial school is an institution for lodging, boarding, and educating the most severe cases of social maladjustment. They are generally located on a farm some distance from the city, although the farm does not seem to be an essential feature in many instances. The parental school is managed on two different bases. One places the institution under the control of the city council or the county board of supervisors and makes the board of education responsible for providing teachers and school supplies; the other places the school entirely under the control of the board of education. Administratively a dual system of control is never desirable. Since the fundamental objective of such institutions is to provide a situation in which problem youths can be re-educated socially and since social, academic, and trade education must go hand in hand, the administration of such schools should be directed by educational authorities rather than by civil authorities. By the same token, state training schools should also be under the direction of

the superintendent of public instruction although they are usually under the direction of the department of public welfare.

Some parental schools and most state training schools require court commitments for all pupils admitted. Since the purpose of these schools is educational rather than penal, it is best to use the court commitment only as a last resort. Two methods of housing pupils in parental schools are used: (a) the cottage system, in which the school plant consists of a number of buildings where children live in small groups of fifteen or twenty, each group having its own cottage; and (b) the congregate system, in which the entire plant is under one roof, the school presenting the appearance of a huge institution. There is a distinct trend in favor of the cottage system, but a good cottage system is dependent upon the careful selection of proper people to serve as housefathers and housemothers. The minimum essentials of the regular course of study are usually required of all pupils, and industrial work is given considerable attention. Much of the housework is done by pupils, and farming, gardening, and stock raising are often provided in addition to the regular shop work. Most of the parental schools and state training schools try to classify their pupils as to age and social maturity and aim to keep the more hardened and vicious types of inmates apart from the merely mischievous and more innocent child.

Good examples of parental or custodial schools are found in the Chicago Parental School for boys and girls, the Bellefontaine Farm School for Boys in St. Louis, the Boys' Farm at Hudson near Cleveland, and Blossom Hill School for Girls also near Cleveland. The Berkshire Industrial Farm is a representative private school located near Albany, New York.

#### TEACHER PERSONNEL

In chapter viii the general qualifications and training of teachers of exceptional children are discussed. Teachers of socially maladjusted children require the same general cultural education, about the same experience and training in regular class work, and the same knowledge of child development and mental hygiene as for teachers of normal children. They should be carefully selected and have special competencies for dealing with this class of exceptional children.

#### Personality

The type of person selected for work with problem children and the personality make-up of those selected is of the utmost importance. No amount of training can overcome fundamental defects of character in teachers who work with children and who are themselves defective in personal adjustments. Children always learn more by example than by pre-

cept, and this is particularly true of those who are emotionally disturbed. The teacher assigned to a special class or a special school for maladjusted children must not be irritable, fussy, or infantile in his own emotional reactions to the disturbed child's problems. He must have respect for the child's personality and must respect his rights as an individual. A good sense of humor and the ability to place people and events in their proper perspective are of great value. Adaptability and flexibility of mind are also essential because problem children always test teachers more severely than do well-adjusted children. Likewise, the teacher should have a normal range of human contacts outside the daily task of working with problem cases. Teachers who have no wholesome outlets soon become problem cases themselves and are able to do little in helping children solve the problems which overwhelm them.

### Special Training

Special training for work with maladjusted children is of extraordinary value to the special-class teacher. This training should include courses that will give a good background in mental hygiene. Studies in the psychology of the abnormal, in the psychology of childhood and of adolescence, and in guidance procedures for children and youth are necessary. Work in guidance should cover the educational, vocational, and personal aspects of such service. Understanding the growth patterns of children and the emotional effects of personal handicaps and educational disabilities will always be a help in teaching maladjusted children. Instruction and practice in testing and in case-work procedures should be included in the training of these teachers. Since much of social maladjustment in school is occasioned by the influences of home and community, there must be courses in understanding the social problems of the home and the community. Social psychology and an understanding of the psychology of social-group life will be of assistance in this connection. Work in recreational activities, crafts, hobbies, and in the guidance of leisure-time interests are likewise valuable.

### Experience

The teacher of the socially maladjusted profits, as do all teachers, by experience. Some writers believe that such experience should include at least some work in teaching normal children. Others believe that experience with problem cases is sufficient. Experience in clinical procedures will help the teacher understand the causes of maladjustment, prevent maladjustment, treat delinquent behavior, and lead the children to make better personal adjustments. Practice in group-work procedures will also prove of value in all these tasks.



## PRINCIPLES OF GOOD PRACTICE

In developing programs for educating socially maladjusted children, experience has shown that certain principles should be followed. Some of these have been suggested in the preceding pages. They are restated here for the sake of emphasis. The following statements will be found of value by those interested in the field of educating and caring for maladjusted children. They should be considered in connection with the task of organizing a special-education program in this field.

1. *Socially maladjusted children are entitled to the advantage of a special educational program that will permit them to develop to the limit of their capacities.* All children must have the right to develop into self-respecting, useful citizens by the process of public education, and that right must not be abridged by a handicap of any kind which can be eliminated or mitigated through the facilities and resources of the schools.

2. *Segregation as commonly defined is not a necessary concomitant of the education of socially maladjusted children.* School administrators should realize that an exceptional child may be more harmfully segregated when kept in a regular class which does not meet his needs than when assigned to a special class which meets his needs much better.

3. *In organizing and administering a program of special education for the socially maladjusted, school administrators must maintain a balance between the interests of pupils needing placement in special groups and the interests of the great majority of the school population.* While these interests often conflict, the conflict must be resolved for the best interests of all concerned. In general, placement of any child in a special group should not be made if that child may receive as good or better training in a normal group, even though it may be necessary to give special help and additional services over and above those which are usually provided. The exception to this rule is found whenever the detriment to the normal pupils outweighs the benefit to the handicapped individual from his association with the regular group. Special groups, when organized, should be made as homogeneous as possible with reference to age, sex, intelligence, and social maturity.

4. *The school administrator should be the final authority in the transfer of children to a special group or to a special program for socially maladjusted individuals.* The school administrator represents the parent as well as the school and the co-operation of the parent must be secured if the child is to receive the greatest service from a special program or a special class placement. Accordingly, the school administrator should be qualified to interpret the findings of the specialists to parents and teachers.

5. *Schools must recognize the fact that a socially maladjusted child is one who may be normal within himself but yet be exceptional because of antisocial*

*home and community influences.* The time has come when the state or the school should assert its right to protect its investment in the social adjustment of children from the inimical influences to which the child may be subjected outside the school. It would appear that the special education for the socially maladjusted must venture into the field of social service and that every teacher of socially maladjusted children will need to be trained as a social worker.

6. *The special-education program for socially maladjusted children should be a part of and not apart from the general educational program.* The same general objectives for educating normal children hold for educating socially maladjusted children. The tendency to substitute specific trade-training for courses in general education is no more justifiable for problem children than it is for normal children. While recognizing the child's need for having something of value to a prospective employer, the school must see that he gets something more than special training to earn a living. Some school systems provide special schools, others special classes in regular schools, and still others special services within regular classes. The particular organization is less important than the program and the philosophy upon which the program is based.

7. *School systems should provide for early identification and early diagnosis of children who are maladjusted.* School children become problem cases as a result of experience and at a much younger age than is often thought to be the case. While truants, incorrigibles, and delinquents become acute problems at about the time of adolescence, the years in school previous to that period should be considered years of opportunity for the school to make definite diagnosis and to institute remedial programs which will prevent the problems from becoming acute.

8. *The education of socially maladjusted children requires a broader basis than that of mere intellectual development.* These children often have warped personalities, and, consequently, their feelings and attitudes are the object of more concern than their academic attainments. Educational programs for meeting the needs of the socially maladjusted should be subject to a minimum of regimentation and should have more than yearly or semester opportunities for change. Too much of all education is still concerned with narrow intellectual development. Children who are deviates because of social maladjustment need a chance to develop emotional stability; they need personal, educational, and vocational guidance; they need to experience the sense of security that goes with a socially acceptable personality. Unfortunately, the school does not always bring to these handicapped children the sense of success that might move them to strive for the maximum of cultural attainment available to them.

9. *Any program of education for the socially maladjusted will be condi-*

tioned by the selection of properly qualified and trained personnel. The teacher must have personal qualifications suitable for the task in hand and should have training which is particularly adapted to the requirements of working with problem children. Also, sufficient experience to be able to handle maladjusted children without becoming confused because of lack of familiarity with the mere mechanics of teaching is important.

10. *No program for socially maladjusted children is sound unless it recognizes the fact that the behavior of such children is symptomatic and purposive.* Adverse behavior such as truancy, incorrigibility, and delinquencies are only symptoms of underlying conditions, the roots of which will be found in the environmental life of the child or in some physiological and psychological aspects of his personality. Teachers and school administrators must also recognize that the behavior of a child has purposive value to the child and that so-called abnormal behavior is sometimes to be regarded as logically normal when the behavior in question represents the manner of achieving a selected aim. An objective attitude on the part of teachers toward children's behavior may serve to prevent problem cases from developing.

11. *Socially maladjusted children differ from normal children more in degree than in kind.* There is no hard and fast line between normal and abnormal adjustment. Problem boys and girls look no different than ordinary children. Too often problem children are not problems in their relation to society. They are, in fact, only children with problems which they, their parents, and their teachers cannot readily solve.

12. *Teachers, school administrators, and social workers should not initiate programs for educating or treating socially maladjusted children without first making a survey to determine the extent and nature of the local problem.* Plans for a given school or school system should be made to meet the situation revealed by the survey. Expert advice should be sought, and the program should be built on sound educational principles. Essential personnel should be selected with regard for training and personal fitness for such service. The program must provide something over and above a regular school program and contain something of particular value to the maladjusted child. In general, the program should be conducted for twelve months in the year and carry far beyond the doors of the schoolhouse.

SECTION III

SOME FUTURE DEVELOPMENTS

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CHAPTER XVI

THE PREVENTION OF HANDICAPS  
IN CHILDREN

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INTRODUCTORY STATEMENT

Special education should embrace within its own program the germ for its ultimate extinction. *Prevention must be one of its primary goals.* The "germ of prevention" should be fostered to preclude serious childhood deviations and to promote well-rounded growth and development to so full an extent that ultimately there will be little, if any, need for special-education programs as we know them today. Although this may be a utopian goal, research in ontogenesis, maturation, learning, and behavior in infancy and childhood as well as research in causes of congenital conditions, diseases, and accidents and their effects and in behavior and personality disorders challenge and inspire those who are engaged in special education to attend to causes and means of prevention. Many of these research findings point the way to the control of adverse elements and to early treatment and new practices that would greatly reduce the nature and number of serious deviations found in childhood today. Special edu-

cation, therefore, misses rich opportunity and defers responsibility when it fails to be insistent on the embodiment and promotion of preventive aspects in its program.

In a broad sense, the whole area of child welfare, embodied in the standards of child health, education, and social welfare for all American children as set forth in the White House Conference reports of 1940,<sup>1</sup> concerns workers in special education. Whatever betters the conditions of life for all families and all children should lessen the need for special-education programs. There is opportunity and need, however, to *focus now* on certain preventive measures, of which we *now* have knowledge that can aid in promoting normal growth for more and more children.

Wherever and whenever programs are set up, such as those for diagnosis of the mentally retarded and the establishment of classes, the discovery of the hard-of-hearing and provisions for lip reading, auditory training, and speech correction, or the study of serious personality deviation and a plan for therapy, there should be accompanying emphasis on, and provision for, early discovery of signs of deviation and for early preventive treatment. There should be continuous attention to the causes for such deviations and to the promotion of conditions that will eliminate those causes. There is need also for research projects in the aspects of prevention. This chapter is devoted, therefore, to the consideration of this whole matter.

Every year research in biological and medical sciences, anthropology, psychology, and social sciences, including education, is advancing knowledge of the extent and causes of handicapping conditions. As this knowledge is understood and applied, we can look for prevention and reduction of incidence, in not only the school-age population but also the total population. The usual lag, however, between theory, knowledge, and application is present.

Although statistical data in general are meager, the incidence of certain handicaps could be greatly reduced if present knowledge of prevention were applied. In the area of visual disability, where much preventive study and field work have been carried on, it is estimated that 66 per cent of all blindness can be prevented.<sup>2</sup> The application of present knowledge, although incomplete, would greatly reduce the 90 per cent of cardiac disabilities in school-age children attributable to rheumatic fever.<sup>3</sup>

There are a quarter of a million children brought before juvenile courts

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<sup>1</sup> *Standards of Child Health, Education, and Social Welfare*. Children's Bureau Publication No. 287, 1942. Washington: Government Printing Office, 1942.

<sup>2</sup> Letter by Mason H. Bigelow, *Sight-Saving Review*, XVII, (Spring, 1947), 49.

<sup>3</sup> Louise Fry Galvin, "Preventive and Public Health Aspects of Rheumatic Fever in Children," *Southern Medical Journal*, XXXVI (February, 1943), 116-21.

in this country annually, and at least three-quarters of a million come to the attention of police and school authorities but are not sent to court. The United States Children's Bureau states that recognition and treatment of incipient symptomatic behavior and unhappiness could have prevented serious social maladjustment for most of these cases.<sup>4</sup>

The present discussion will focus on medical knowledge, research, social factors, health services, and educational programs that have a bearing on prevention of initial handicaps and will consider briefly measures—medical, health, social, and educational—that will prevent the occurrence or development of handicapping conditions.

Briefly stated, the growth and development of the child stems from two forces. From the period of life *in utero* and from birth onward, the growth and development of the individual is determined by constitutional inheritance and by a multiplicity of influences which are designated by the generic term, environment. Environmental influences of housing, nutrition, clothing, exposure and reaction to accidents and disease, the family constellation, the school system, and the community center in which the child is reared, all play their part in the ontogeny or development of the individual organism.

Consideration will be given first to constitutional inheritance, to causes operating during gestation and birth which bring about abnormal development, and to postnatal factors of disease and accident. Discussion of the prevention of social maladjustment and environmental influences will follow.

#### PRENATAL, NATAL, AND POSTNATAL FACTORS

##### Prenatal Factors

*Heredity.* The role of heredity in disease is a moot question. Its influence is best studied in developmental anomalies. The presence of the same malformation in both identical twins is not unusual, but it is almost unknown for only one identical twin to be afflicted or both fraternal twins to be affected in the same manner. Identical twins have the same heredity, and fraternal twins have a dissimilar heredity but, in general, the same prenatal influences. Hence, it is reasoned that the most important factor in such malformations is heredity. Such studies, moreover, stress the fact that congenital defects are dependent upon recessive rather than dominant factors. Two facts must be kept in mind. First, a symptom-free interval following birth is not to be interpreted as evidence that the later appearing anomaly is not due to developmental defect, since the structure upon which the symptom depends may not be functional for months after birth. Second, since the defect is dependent upon recessive

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<sup>4</sup> "An Experiment in Child Welfare," *The Child*, II (October, 1946), 70, 71, 79.

factors, only a careful study of the family tree will show its hereditary nature.

A second possibility remains to be considered, however. Developmental defects can be produced by such procedures as pricking with a needle certain areas of a fertilized egg, placing it in solutions of different types, or keeping it in an icebox for brief intervals, thus producing changes in oxygenation. In view of such experimental evidence, it is thought that defects of development may occur *in utero* due to transient disturbances of embryonic metabolism. Defective placental implantation may be a factor in bringing about developmental defect. Roentgenological therapy of the pelvic region during pregnancy has been shown to cause defects of the nervous system. Maternal toxemias as well as extreme vitamin deficiencies must also be considered.<sup>5, 6</sup>

*Infectious Diseases.* Congenital malformations following infectious diseases during pregnancy have been intensively studied in recent years. Rubella—German measles—appears to be particularly prone to cause congenital defects. Common among such defects are microcephaly, heart disease, deaf-mutism, cataracts, and mental deficiency. Other infectious diseases which may lead to defective offspring if they occur during pregnancy are measles, mumps, chicken-pox, and scarlet-fever.<sup>7</sup>

*The Rh Factor.* In 1940, Landsteiner and Wiener<sup>8</sup> reported on an agglutinin, a substance capable of causing clumping or destruction of the cells which stimulated its production, which developed in rabbits by injecting blood from the *Macacus Rhesus* monkey. When tested with human bloods, this agglutinin demonstrated the presence of a new substance in human blood cells called the Rh (rhesus) factor. This factor is present in about 86 per cent of human bloods, and such bloods are designated as Rh positive. The 14 per cent of human bloods which do not contain the Rh factor are designated Rh negative. The agglutinin is called the anti-Rh agglutinin.

This agglutinin is the destructive antibody responsible for manifestations of erythroblastosis, a condition in which immature blood cells

<sup>5</sup> Frank R. Ford, *Diseases of the Nervous System in Infancy, Childhood, and Adolescence*, pp. 149-333. Springfield, Massachusetts: Charles C. Thomas, 1937.

<sup>6</sup> Alfred A. Strauss and Laura E. Lehtinen, *Psychopathology and Education of the Brain-injured Child*, pp. 106-17. New York: Grune & Stratton, 1947.

<sup>7</sup> Charles Swan, A. L. Tostevin, and G. H. Barham Black, "Final Observations on Congenital Defects in Infants Following Infectious Diseases during Pregnancy, with Special Reference to Rubella," *Medical Journal of Australia*, II (December 28, 1946), 889-908.

<sup>8</sup> K. Landsteiner and A. S. Wiener, "Agglutinable Factor in Human Blood Recognized by Immune Sera for Rhesus Blood," *Proceedings of the Society of Experimental Biology and Medicine*, XLIII (1940), 223.

(erythroblasts) are found in the blood stream due to failure of their maturation in the bone marrow. Much remains to be learned regarding the Rh factor, but the evidence indicates that an Rh-negative wife of an Rh-positive man may, after the first pregnancy, unless she has had blood transfusions from an Rh donor previously, give birth to a child suffering from erythroblastosis foetalis.<sup>9</sup>

Treatment of the new-born suffering from this disease with transfusions of Rh-negative blood is saving a large proportion of infants who otherwise would have died. However, damage to the brain tissue may result in neurological disturbance and in feeble-mindedness.<sup>10</sup> More research in regard to this is indicated.

*Endocrine Disorders.* The effects of disturbed function of the glands of internal secretions in the pregnant woman are not too well understood. However, hypofunctioning of the thyroid gland in the pregnant woman leads to states of hypothyroidism and cretinism in the infant, a chronic condition due to the congenital lack of thyroid secretion and marked by arrested physical and mental development. Most cases of cretinism and hypothyroid states could be prevented by careful study of the pregnant woman. Routine basal metabolic rate and cholesterol determinations—standard tests for determining normal functioning of the thyroid gland—carried out in each trimester of pregnancy and treatment with thyroid extract when indicated would greatly reduce the incidence of hypothyroidism and thus prevent many cases of arrested physical and mental development.<sup>11</sup>

Mongolian idiocy or Mongolism is less well understood than cretinism. Children suffering from this condition may be born to women without regard to social or economic condition or intellectual ability at any period in the reproductive age span.<sup>12</sup> According to Benda<sup>13</sup> a careful life-history study of the pregnant woman will call attention to the possibility of an abnormal pregnancy. An analysis of the cases cited by Benda reveals conditions and symptoms in the pregnant woman which the obstetrician can observe and upon which a rational treatment program may be under-

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<sup>9</sup> L. M. Hellman and G. R. Vosburgh, "Role of Transfusion in Etiology of Erythroblastosis: Warning to Physicians," *Journal of American Medical Association*, CXXXVI (January 10, 1948), 79-81.

<sup>10</sup> Mary Louise Scholl, Warren E. Wheeler, and Lawrence H. Snyder, "Rh Antibodies in Mothers of Feeble-minded Children," *Journal of Heredity*, XXXVIII (1947), 253-56.

<sup>11</sup> Clemens E. Benda, *Mongolism and Cretinism*, pp. 115-20, 224-45. New York: Grune & Stratton, 1946.

<sup>12</sup> Clemens E. Benda, "Prenatal Maternal Factors in Mongolism," *Journal of the American Medical Association*, CXXXIX (April 9, 1949), 979.

<sup>13</sup> Benda, *Mongolism and Cretinism*, *op. cit.*



taken. Benda is convinced that Mongolism is not likely to be ameliorated in postnatal life. He believes that the main goal will remain the prevention of the development of Mongolism in the unborn baby. Much more research, however, remains to be done.

### Natal Factors

*The Birth Situation.* Much brain damage is the end result of the birth situation. Premature birth, caesarean birth, long and difficult labor, precipitate birth, dry birth, hemorrhage, pelvic malformations, anomalies in presentation, and twisting of the umbilical cord are factors of importance in the causation of brain damage.<sup>14</sup> Then, too, the improper use of forceps and of anesthetics and drugs contribute their share to the production of brain damage.

*Anoxia.* Maternal toxemia not only contributes to premature labor but also to anoxia (insufficient oxygen in the blood) in the new-born. Forceps delivery, version, and caesarean section as well as the improper use of pituitrin, a drug used to promote uterine contractions, clearly contribute to the production of birth trauma and hence to hemorrhage, which in turn results in improper oxygenation. Analgesics, anesthetics, and drugs such as morphine result in increasing the danger of anoxia and asphyxia to which brain tissue is extremely vulnerable.<sup>15</sup>

*Cerebral Palsy.* "Cerebral palsy is a term used to designate any paralysis, weakness, inco-ordination, or functional aberration of the motor system resulting from brain pathology."<sup>16</sup> Factors ranking first in importance in producing cerebral palsy are those incident to labor and birth, with prenatal factors ranking second in importance, and postnatal third.

### Postnatal Factors

*Infectious Diseases.* Infectious diseases, particularly whooping cough,<sup>17</sup> measles, and scarlet fever during the first months of life, and meningitis and encephalitis at any time in childhood are factors producing brain injury after birth. Accidents during infancy and childhood are another source of brain damage.

*Epilepsy.* Epilepsy, or the convulsive disorders, occurs in one who has a predisposition or a susceptibility to that disorder. However, brain dam-

<sup>14</sup> Edith L. Potter and Fred L. Adair, *Fetal and Neonatal Death*. Chicago: University of Chicago Press, 1949 (second edition).

<sup>15</sup> Franklin F. Snyder, *Obstetric Analgesia and Anesthesia: Their Effect upon Labor and the Child*, chap. vi. Philadelphia: W. B. Saunders Co., 1949.

<sup>16</sup> M. A. Perlstien, *The Problem of Cerebral Palsy Today*, p. 4. Chicago: National Society for Crippled Children and Adults, 1947.

<sup>17</sup> Sol Levy and H. A. Perry, "Pertussis as a Cause of Mental Deficiency," *American Journal of Mental Deficiency*, LII (1948), 217-26.

age due to causes already discussed is the primary contributing factor. Emotional disturbances also may bring on a seizure. Disorders such as the common diseases of childhood and nutritional disturbances may further damage an already susceptible brain and bring on seizures. It is obvious that measures which reduce brain injury and emotional shocks in individuals with a predisposition to convulsive disorders will aid in prevention and that early recognition and treatment of mild symptoms are implied.

*Poliomyelitis.* In poliomyelitis, a disease which results in crippling conditions, research continues apace both as to epidemiology<sup>18</sup> and treatment. Infection with poliomyelitis virus is apparently as widespread as measles but often is so mild in symptoms that it is not brought to medical attention.

Severe epidemics do not occur in successive years in the same community. The epidemic curve usually rises to a peak in about six to eight weeks and then declines over an eight- to ten-week period. The disease occurs at all seasons of the year, but the highest incidence is in the summer season. The disease is undoubtedly caused by a virus and, so far as now known, is a disease limited to man.

Three hypotheses have been advanced as to the transmission of the disease: transmission through the respiratory tract, the intestinal tract, and through flies and mosquitoes. However, epidemics occur without regard to the distribution of water, milk, or food supplies, and spraying with DDT or other insecticides has no effect in shortening an epidemic. The high incidence of bulbar (brain-stem) cases among children on whom tonsillectomy is performed during an epidemic suggests entry of the virus through the nerves or lymphatics of the upper respiratory tract. The age distribution of the disease indicates that resistance is acquired with age and that it develops earlier in life in urban than in rural areas.

The National Foundation for Infantile Paralysis has a program of medical research in causes and treatment.

*Rheumatic Fever.* Rheumatic fever, which causes 90 per cent of childhood cardiac conditions, is in some way related to infection caused by hemolytic streptococci. Fully 80 per cent of deaths from heart disease in children under fifteen are due to rheumatic heart disease.

Whether rheumatic fever is increasing or decreasing is difficult to determine. About 5 per cent of the population are susceptible to the development of rheumatic fever. The first attack of rheumatic fever usually occurs between the age of four and puberty. The recurrence incidence is also much higher in this age group than after the age of puberty.

<sup>18</sup> Gaylord W. Anderson, "Epidemiology of Poliomyelitis," *Lancet*, LXVII (January, 1947), 10-13.

Early detection and treatment may alleviate cardiac involvement. Early signs and symptoms which should direct attention to the possibility of a rheumatic condition are: fatigue, irritability, anorexia, pallor, night sweats, spontaneous epistaxis, increased pulse rate, low-grade fever, and vague pains in the extremities, joints, and abdomen.

Two recent developments have taken place in the public health aspects of the disease. The U. S. Government has authorized grants-in-aid to the state governments for a rheumatic-fever program in connection with the program of services for crippled children. Several interested groups representing the medical profession, public health nurses, sociologists, and others interested in the control of the disease, have organized a Council on Rheumatic Fever under the general supervision of the American Heart Association.

Adequate control measures<sup>19</sup> involve improvement of living conditions, more adequate medical care of patients suffering from respiratory infections, and adequate facilities for the medical care of the rheumatic heart patient. In addition, more attention should be paid to social service follow-up care as well as to vocational guidance and job placement of the patients who have recovered from attacks.

*Tuberculosis.* Through popular education, through case finding by the use particularly of mobile X-ray units for screening mass populations, and through discriminating treatment of persons infected with tuberculosis, this disease has been moved from first place in the cause of death in 1900 to seventh place today. The teen-age period is a dangerous age, particularly for girls. Tuberculosis is spread through association with others who have tuberculosis. It is not inherited but "runs" in families, because it spreads through close contact with an infected person. At the present time vaccination against tuberculosis of the "tuberculin negative" child is receiving scientific attention. Large-scale vaccination programs are now in progress.

#### PREVENTION OF ABNORMALITIES AND DISEASE

Little is actually known about human genetics. However, if there is any question of marriage, the individual in whose family background there is a history of such disorders as Huntington's chorea or the hereditary neuromuscular disturbances should consult his physician in order that the situation be fully explained to him so as to prevent the continuance of such pathological strains. Sound judgment must be used, however, in situations in which the family history records epilepsy or mental illness.

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<sup>19</sup> *Proceedings of Conference on Rheumatic Fever, October 5-7, 1943.* Federal Security Agency, U.S. Children's Bureau Publication No. 308. Washington: Government Printing Office, 1944.

Of more importance is the early and continuous care of the pregnant woman. Many anomalies of development could undoubtedly be prevented were every pregnant woman to receive the full benefit of modern medical knowledge. Prenatal classes should be established in all communities, and all pregnant women, regardless of socioeconomic status, should be encouraged to attend regularly. Attendance at such classes and competent medical attention from the onset of pregnancy would go far to insure an uneventful pregnancy and normal development of the unborn child.

The prevention of natal injury demands sound obstetric care at the time of delivery. Every girl should be taught that pregnancy and labor are normal physiological processes. This would eliminate the unhealthy trend for the use of analgesics, anesthetics, and surgical interference. Anoxia, asphyxia, and hemorrhage would be greatly reduced.

Pediatric care and attendance at well-baby conferences would insure normal development of the well-born baby. Immunization and vaccination against many of the common diseases of childhood is not only possible but eminently practical. Much research is under way to increase the number of diseases against which immune sera and vaccines will prove effective.

Today there is in most communities no provision for well-child conferences beyond the age of two. Unfortunately, too, many parents fail to obtain medical care for the run-about child at the earliest signs of illness. Hence many disabilities, the outcome of nutritional disturbances, accidents, and diseases are not caught early and adequately treated. Much permanent damage, therefore, results.

In many localities the school health service is but a school inspection service. Then, too, the health program is badly divided. Frequently several different groups of workers of varying backgrounds of training are responsible for parts of the total health program. Too often there is little co-ordination and integration of the findings; hence, the whole child and his total needs are not evaluated and met. Consequently, neither prevention nor early treatment is satisfactorily achieved.

The establishment of competently staffed local or regional public health units responsible for the health care of all the people, including the school children, is highly desirable for the proper carrying out of rational preventive and early curative services. Health education is a major factor in promoting understanding of health needs. In this area the voluntary health agencies have given yeoman service. Both the local health department and the school through its day-by-day classroom instruction in, and practice of, healthful living need to stress the value and advantage accruing from good health.

## PREVENTION OF SENSORY DEFECTS

## Hearing

Implementation of research findings in the field of hearing alone would insure normal hearing for great numbers of children who are now victims for lack of study and treatment. Although hearing surveys of school children are increasing in number and improving in quality, there are many thousands who do not get this service. State legislation, improvement in audiometers, and increasing recognition of the value of the otologist's services are some of the factors which are stimulating school systems to provide methods for discovering incipient hearing loss and ear conditions that may, if untreated, lead to hearing loss. The border-line loss discovered by audiometric screening is often the first indication of ear trouble.

Otitis media, one of the commonest aural infections in school-age children, often arises from acute throat infections. The sulfonamide group of drugs and penicillin are producing dramatic results in the control of such infections. Other effective methods consist of surgical removal of adenoids and treatment by radium or X-ray of the lymphoid tissue in the nasopharynx. Early immunization against diseases known to predispose to middle ear infections—whooping cough, diphtheria, small pox—and the use of convalescent serum against measles, will do much to prevent otitis media and its complications. Early diagnosis and prompt treatment of cerebrospinal meningitis will diminish the number whose auditory nerves are destroyed by toxic neuritis.

The classification of congenital deafness is not sufficiently defined in medical statistics. Hereditary nerve deafness, however, in which there is a predisposition for the sense organ of hearing and the auditory nerves to degenerate at an early age, has been established. Persons with this disability should seek marriage counsel of a physician who is versed in the laws of heredity. Other causes of congenital deafness recently discovered are German measles (rubella), mumps, and influenza during pregnancy. This later discovery should considerably reduce the incidence of deafness in children.<sup>20</sup>

## Vision

Public health authorities have long waged a fight to prevent blindness due to ophthalmia neonatorum and have succeeded in reducing the number of cases due to that cause in schools for the blind 23.6 per cent in the past ten years.<sup>21</sup> Research directed toward the prevention of this infection by means of safer drugs is under way.

<sup>20</sup> Hallowell Davis, "Medical Aspects of Hearing Loss," *Hearing and Deafness*, pp. 67-100. New York: Murray Hill Books, Inc., 1947.

<sup>21</sup> C. Edith Kerby, "What Causes Blindness in Children?" *Sight Saving Review*, XVIII (Spring, 1948), 21-33.

Additional problems which face physicians are (a) the prevention of German measles (rubella) in early pregnancy which can cause cataracts as well as hearing loss and (b) the prevention of retrolental fibroplasia,<sup>22</sup> a serious defect appearing in premature infants. Further research in assembling and studying records of family groups affected by serious hereditary eye disease is needed. Just as in hereditary deafness, persons from such family groups should seek a physicians' counsel on marriage.

Safety education will insure further the prevention of eye injury. Prompt ophthalmological care in case of penetrating injury to an eye will tend to avoid development of sympathetic ophthalmia and blindness in the uninjured eye.

#### ACCIDENT PREVENTION

Few parents and educators realize that accidents hold the top-ranking position in the cause of death and disability in the school years. It is reported that 90 per cent of all accidents are preventable and that four-fifths of all accidents involving children are due to acts of omission or commission by adults.<sup>23</sup> While the accidental death rate in the school ages has declined sharply since 1930, it shows no such spectacular reduction as do the death rates for infectious diseases in childhood and adolescence. Although there are far more variables in the control of accidents than those involved in the control of infection, there is reason to believe that public education and precautionary measures can markedly reduce accidental deaths and disabilities such as loss of vision or hearing and crippling conditions in the school ages.

#### In School and Home

Accident prevention calls for concerted community action, including education for parents as well as safety-education programs in the schools. First of all, in a mechanized age like the present, safety engineering must be employed to eliminate accident hazards in the structural aspects of home, school, and public places, including furnishings, and of thoroughfares. Second, schools must accept the challenge presented to them. That there is awareness of need over the nation is evidenced by state law or regulation requiring safety education in nearly three-fourths of the states and by provision for courses of study and teaching materials in a larger number.<sup>24</sup> The subject of accident prevention in the home, at school, on

<sup>22</sup> V. Everett Kinsey and Leona Zacharias, "Retrolental Fibroplasia," *Journal of the American Medical Association*, CXXXIX (February 26, 1949), 572.

<sup>23</sup> Howard A. Rusk, "Accident Prevention Held Real Preventive Medicine," *New York Times*, January 4, 1948.

<sup>24</sup> "The Human Touch in Safety Education," *Health Bulletin for Teachers* (Metropolitan Life Insurance Co.), XIX (September, 1948), 23.

streets, on highways, in motor vehicles, in recreational activities, and in industry is integrated with health and physical education, science, social studies, home economics, and vocational training. The introduction of driver-education courses to produce better and safer performance is one of the most recent additions to the high-school safety program. Some schools also include safety education in their adult programs.<sup>25</sup> Third, these efforts in the school must be supplemented and supported by the parents who, without overprotection, can aid the child in building safety attitudes and habits. Theirs is the responsibility to eliminate unnecessary physical hazards in the home and to guide the child from preschool years on toward independence in safely established routines and toward confidence in self-care. The serious results from head injuries in young children implies the need for parent education and parent responsibility in prevention.

Recently emphasis has been given to the psychological aspects of accident causation. Psychiatric investigation of accident-prone children and adults have in some cases revealed deep-seated emotional conflicts. Children who experience one accident after another will bear study. The accident may be the means of escape from accepting certain responsibilities or a means of receiving the attention craved but obtained in no other way. These findings suggest the need for both parent and teacher to be alert to the "accident habit" as a symptom.<sup>26</sup>

Law enforcement is also a necessary ally, for example, in the control of age regulations in sale and use of dangerous weapons, of traffic, and of age limits for employment of youth in hazardous occupations. The National Safety Council has demonstrated a 25 to 40 per cent reduction of accident rates over a period of five years in cities "where strong, continuing, over-all safety programs" embodying safety engineering, law enforcement, and education have been conducted.<sup>27</sup>

#### PREVENTION OF SOCIAL MALADJUSTMENT

While prevention of disease and accident will significantly aid in the reduction of physical handicaps, mental retardation, and certain personality changes, school administrators and teachers need to be made more aware of the factors that are producing serious social maladjustments. In this section brief mention will be made of those environmental elements that will foster mental health and prevent conduct and personality problems. For fuller discussions of personality development, social maladjust-

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<sup>25</sup> *Ibid.*, p. 24.

<sup>26</sup> Helen Flanders Dunbar, "Mind and Body: Psychosomatic Medicine," *The Accident Habit*, chap. viii. New York: Random House, 1947.

<sup>27</sup> Rusk, *op. cit.*

ment, guidance, teacher training, and parent education, the reader is referred to other chapters of this yearbook.

### The Family and Mental-Hygiene Needs

That human relations and the feelings and emotions attached thereto are of paramount significance in the development of a well-adjusted personality and the achievement of mental health has been conclusively proved by research. The family setting is, therefore, a prime source in the development of a healthy personality. The first essential for mental health for all children is security in the parental relationship derived from the parents' affection and care of the child. A second essential is the parental acceptance of the child for what he is and parental willingness for him to grow up according to his own patterns.

Many children today, however, do not have these needs met. Due to the change in the structural form of the family from the kinship group to the emphasis on the immediate family, family relations and, in particular, parent-child relations are intensified.<sup>28</sup> The child today is more dependent upon his immediate family for training, care, and affection than was the case in the kinship family group. Yet, at the very time when the child has a greater reliance upon his immediate family, it is increasingly breaking up through separation, desertion, and divorce.

The change of emphasis from the kinship group makes the family more susceptible to advertising, the radio, the cinema, fashion magazines, etc., because of the emphasis given to material success and conformity. The parents want the child's home and his possessions to be as good as those of the neighbors. The child himself is compared with other people's children. The pressure to conform creates the drive to achieve, to get ahead, both materially and in social status. But out of this sort of competitive pressure grows a sense of uncertainty, of insecurity, and of inferiority for both the parents and the child. Failure to achieve affects both parents and child and may cause parental rejection rather than acceptance and nurture of the child's potentialities.

### The School and Mental-Hygiene Needs

At school the child enters another social group made up of adults and of large numbers of children of different ages. The school is a society which has its own program and frame of reference to which the child must adjust. The school, however, feels the impact of our changing culture, as shown by the growing emphasis on the immediate family, the shifting population, parental aspirations for social acceptance and success of their children, and the effects of increasing stimuli due to modern

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<sup>28</sup> Margaret Mead, *And Keep Your Powder Dry*. New York: William Morrow & Co., Inc., 1943.



methods of communication. Out of all this grows the popular demand for school personnel to re-evaluate, change, and improve school programs.

Certain mental-health needs of the school child briefly stated in terms of school-life are (a) the need for success and achievement, (b) the need for recognition and approval from others, (c) the need for belonging to a group, and (d) the need for adventure and new experience. Certain elements in the school setting have their effect on these needs and the emotional well-being of the child. There is, first, the teacher-pupil relationship in which, for example, the child is accepted for what he is and helped to experience success or is rejected and made to feel inferior because he does not meet the teachers' expectations.

There are, second, the social and working groups or so-called grades in which pupils are organized. Their size as to numbers, their age span and interests in respect to the individual, and their goals are significant as an aid or deterrent in developing group acceptance and recognition for the individual. It is evident that average class size should be reduced if the teacher is to have opportunity for fuller understanding and guidance of her pupils in group situations. One of the goals of the N.E.A. Victory Program<sup>29</sup> adopted in 1948 is stated as follows, ". . . the N.E.A. recommends that class enrolments should not exceed 25 or 30."

A third element is the curriculum. Made up of varied experiences suited to the physical, mental, social, and emotional maturity of the children, where initiative, creativity, and democracy as well as the mastery of necessary skills can have sway—or made up of formal subject matter and teacher-dominated activities—it will have its effect in fostering or inhibiting emotional well-being and security.

### Parent Education and Teacher Training

Mental-hygiene needs, in home and school, imply an understanding of the principles of mental hygiene and of children on the part of youth, parents, and teachers. Programs of parent education in colleges and in public school systems staffed by professional workers trained in child development and nursery-school procedures are needed. High-school courses in human relationships, family relationships, mental hygiene, and child care should precede the college and parent level.

Teacher-training institutions have a large role to play in the improvement of school programs for all children and youth. First, there should be selection of students for teacher training on the basis of intelligence, personal adjustment, a sympathetic interest in children, and a desire to understand them. This selection needs to be followed by continuous per-

<sup>29</sup> "The Victory Action Program," *NEA Journal*, XXXVII (September, 1948). 361.

sonnel work during training and cadet experience. Second, the curriculum should consist of courses in broad study of our changing American culture and realities of life, thorough study of growth characteristics by laboratory methods and experience with children, school health, mental-hygiene principles, a survey course of the nature and needs of exceptional children, and the formulation of a basic educational philosophy. Such training needs to supplant much of the work in traditional subject matter still listed in teacher-training courses. It is unbelievable that many states in which there is legislative provision for the education of exceptional children have, to date, no program for mental-hygiene courses or survey courses in the education of the exceptional child for all administrators and teachers.

In-service training courses in mental hygiene and the understanding of children are very much needed and are in progress in many school systems. Detroit, for example, reports on a "School Mental-Health Project."<sup>30</sup> A project, jointly planned by representative school people and psychiatrists, led to the offering of courses in education for mental health for school personnel. The courses are sponsored jointly by the schools, the University of Michigan, and Wayne University.

#### Child Health and Guidance Services

Adequate health and child-guidance services from the prenatal period through adolescent years will go far toward prevention of social maladjustment. Maternal and child-care centers, well-baby clinics, and private pediatric service offer a regular schedule of examination and treatment. Parent complaints of incipient behavior problems such as temper tantrums, breath holding, refusal of food, night terrors, masturbation, and so on, as well as abnormal physical conditions should receive prompt recognition and treatment.

Schools should have available the services of well-qualified public health nurses and physicians who will give thorough medical examinations at entrance, at three-year intervals, and at such times as children are in need. Screening techniques for vision and hearing should employ the most recent equipment and methods to insure detection of early signs of deviations in any child. Unrecognized sensory defects can cause serious maladjustment. All teachers should be trained to observe children and to detect any signs of illness, sensory or motor strain, or unusual behavior. Teacher-nurse-doctor conferences now employed in some school systems on individual children provide a setting for the study of behavior in relation to mental and physical health.

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<sup>30</sup> Paul T. Rankin and John M. Dorsey, "Detroit School Mental-Health Project, Progress Report, April 7, 1948." Detroit, Michigan: Board of Education, 1948 (mimeographed).

There should be available child-guidance service, staffed by a psychologist, a psychiatrist, and one or more visiting teachers who are trained social workers. Their function is to discover those conditions, physical, psychological, and environmental, that are causing the child's maladjustment. They aid in interpreting behavior to the end that the school and the home may create a more wholesome environment for children. These staff members will also discover the child who is not functioning up to his ability and who appears mentally retarded due to emotional blocking and frustration.<sup>31</sup> Research studies with the use of projective techniques report findings that suggest that apparent mental retardation may be a symptom of deep-seated emotional disturbance.

Since this whole area of prevention of social and emotional maladjustment is so broad in its scope, it is timely to follow this necessarily brief discussion with mention of the National Mental Health Act and its implications.

#### The Mental-Health Act

The Seventy-ninth Congress passed Public Law 487, also known as the National Mental-Health Act. It became effective July 3, 1946.<sup>32</sup> Three major programs were authorized—training, research, and community mental-health programs—through grants-in-aid to states. Trained personnel—psychiatrists, clinical psychologists, psychiatric social workers, and psychiatric nurses—must be increased at least four-fold in order to meet the needs of public service alone. It will take many years of training to supply this need. Research into the causes, diagnosis, treatment, and prevention of mental illness is a pressing problem. Total expenditures for fundamental research have never exceeded twenty-five cents for each case of mental illness as compared with one dollar per case of poliomyelitis, a disease much less prevalent and far-reaching in effect.

Community mental-health programs are essential both to educate the public about the facts of mental health and to provide early diagnostic and treatment facilities. Most mental clinics today are to be found in the larger cities, but even there the staff and time is relatively limited. Each community must evaluate its own needs for service. In some communities, work in conjunction with the clinics operated by the health department—prenatal, well-baby, and pediatric clinics, school health clinics, etc.—will be the most feasible. In other communities, it may be best to establish facilities operating directly under the school system or in the juvenile court. In still other communities, the establishment of an all-

<sup>31</sup> Isaac Jolles, "The Diagnostic Implications of Rorschach's Test in Case Studies of Mental Defectives," *Genetic Psychological Monograph*, XXXVI (1947), 80-197.

<sup>32</sup> R. H. Felix, "State Planning for Participation in the National Mental-Health Act," *Public Health Report*, LXII (August 15, 1947), 1183-91.

purpose mental-health clinic serving both adults and children would be most desirable. It follows, therefore, that each community ought to make a complete survey of its mental-hygiene needs and facilities and then plan accordingly. Best results will be obtained when health, welfare, and educational organizations co-operate in both planning and carrying on educational and treatment activities to the limit of their resources, training, and experience.

#### SUMMARY

This chapter has considered handicapping conditions, knowledge of prevention, and need for preventive treatment to the end that children may be saved from disabilities. Legislative provisions for extending special-education programs with specialized services for the handicapped are being increased. Training programs to provide personnel for these services are being extended. At the same time, equal attention should be given to prevention. Wherever preventive programs in medicine, health, child guidance, and education are existent, there will be fewer children in need of special education. The national provisions for mental health and rheumatic fever cited are indicative of public support of research and prevention.

In summary, attention has been called to the following areas of prevention: First, there are factors during the prenatal, natal, and postnatal periods which, if adequately controlled, diagnosed, and treated, will effect prevention of certain physical and mental handicaps. More research is needed in this area. Second, there are abnormalities and diseases which can be controlled to a greater degree if immunization, medical diagnosis, and medical treatment are instituted at the proper stages in the life of the mother and of the child. Third, there are sensory defects of eye and ear which can be prevented by immunization, screening procedures, medical diagnosis, and treatment. Fourth, safety education and concerted community action can reduce markedly sensory and orthopedic handicaps resulting from accidents. Fifth, healthy human relationships in home and school which lay the basis for satisfactory social adjustment can be fostered through parent and teacher training, improved school curriculums, and guidance services, including mental-hygiene clinics.

General medical practitioners, pediatricians, psychiatrists, nurses, social workers, psychologists, school administrators, and teachers comprise the team of workers in the community whose services should be enlisted in programs for better child health and for diminution of handicaps. While education alone cannot achieve these goals of prevention, education can be a potent force for their extension. Education at state and local levels cannot afford to set up special-education programs without recognition of the need for prevention and the promotion of provisions for the carrying out of preventive measures.

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## CHAPTER XVII

### NEEDED PROJECTS AND RESEARCH IN SPECIAL EDUCATION

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#### INTRODUCTION

In reading the various chapters of this yearbook, one is impressed by the wide range of information that is available on human abilities and disabilities. The reader is also impressed by the gaps in our understanding of the children who differ from normal children in developmental traits. What is not known and what is offered only as opinion will be apparent to the critical reader.

Special education for exceptional children has existed in some form for centuries. The increase in provisions for the handicapped from decade to decade in the history of American schools represents the growing interest of the public in the care and education of such children. But this public interest and support should not lull those who work with exceptional children to a feeling that they have arrived at final solutions for the many perplexing problems dealt with in the chapters of this yearbook. This yearbook will serve its purpose if it can help to stimulate progress through new approaches to these problems. This can only be accomplished through the initiation of new and different projects and more extended research in the field.

As in many other practical disciplines, workers in this field have drawn upon the resources of psychology, biology, medicine, sociology, and other basic sciences for knowledge and methods that are useful in the care and education of atypical children. The research that is available from related sciences provided the foundation for the advances that have been made. For example, contributions of psychology in the field of mental measurement facilitated the discovery of the mentally retarded and the gifted children enrolled in the schools. Medicine has been basic to the diagnosis of the physically handicapped—otology for the deaf, ophthalmology for

the blind and the visually defective, orthopedics for the crippled, neurology for the aphasic, epileptic, and other defectives, and psychiatry for the emotionally disturbed. The science of acoustics has advanced the field of the education of the auditorially handicapped through better audiometric diagnosis and the continuing improvement of hearing aids. Indeed, most of the facts which are now being used in the education of exceptional children are products of research in these and other basic sciences. There actually has been little research directed toward the problems encountered in the education of exceptional children. Some of the reasons for the paucity of research in this area are:

1. The original work in this field was spearheaded by promoters and humanitarians and not by scientists. Funds were made available for services rather than for scientific research, since, in general, parents, teachers, welfare agencies, and other lay groups were first interested in providing needed services for the exceptional children.

2. Custodial institutions and special schools established for the care and training of exceptional children have not usually been equipped for research pertaining to the problems and needs of these children.

3. Relatively few research foundations direct their efforts toward the study of the education of exceptional children.

4. Universities, where research in many other areas is carried on, have been slow to recognize the need for research in the education of exceptional children in general and but few of them even now have a specialized staff to design and organize research projects and to train specialists in this field. The only exception that has figured at all prominently in universities is speech correction, and much research has been carried on in that area. Universities have relied upon the basic sciences to furnish data in this field but have not appointed staffs to spearhead the program or to draw upon facts from the basic sciences.

5. Field personnel, such as state or city directors of special education, have more than a full-time job carrying on the service functions of their departments and have had little time for research activities.

#### THE NUMBER AND DISTRIBUTION OF EXCEPTIONAL CHILDREN

The authors of several chapters of this yearbook have reported estimates of the percentage of the pupils probably belonging in specified classes of exceptional children. Usually the available estimate was admittedly based on a partial survey, on teachers' opinions in some community, or on a study of limited scope. In planning programs for exceptional children it is necessary to determine the numbers of each group of exceptional children with some degree of accuracy. School superintendents and state legislators have sought such information for consideration in finan-

cial and administrative planning. It has often been difficult to secure information because of the inadequacy of studies of the distribution of exceptional children in the school population.

The difficulty with most surveys is that they are not made from the point of view of the educational program and facilities to be provided. In the field of mental retardation, for example, the estimates vary from .5 per cent to 10 or 15 per cent. The criteria and tests used sometimes determine the percentage of children with low intelligence. The school administrator is interested in ascertaining the number of individuals in a population who are custodial or uneducable cases, since these will not be included in the special-education program of the local school system. But he must also know how many can profit most from special-class placement and how many should have some sort of a differential curriculum in the regular classrooms. With reference to the acoustically handicapped, the estimates vary according to the conception of different investigators concerning the degree of physical defect that calls for a particular kind of training program. The school administrator needs to know how acoustically handicapped children are distributed among the different groups: those whose hearing loss is so great that they have been unable to develop adequate speech and language skills and who require special-class or special-school placement; those whose needs can be met with hearing aids; those who require only speech and auditory training; and those who can be cared for by reseating them in the classroom.

An adequate survey in one community, although of some value to other communities, would not actually be an accurate index of the situation for all communities. One community may have more mentally deficient children than others. Another community, due to an epidemic of meningitis, may have more cases with hearing or vision handicaps than another. An epidemic of poliomyelitis may leave an abnormal percentage of crippled children in the community affected.

#### ORGANIZATIONAL AND ADMINISTRATIVE PROBLEMS

There have been few research studies on the organizational and administrative problems of the school in dealing with exceptional children. Usually the administrative plan used is one which does not require any major changes in the existing organization of the school system. That is, when such classes or special services are introduced into a school system, they are made to fit the existing organization. There are many difficulties involved in organizing special-education programs, and sometimes expediency overrides principles. Lay organizations have frequently sponsored the introduction of special programs for exceptional children in city school systems. The manner in which these programs were originally or-



ganized and administered was not always guided by experimentation or by the experience of other school systems.<sup>1</sup>

Some of the projects and research problems which could be carried out in this area may be stated as follows:

1. The question of the desirability of educating exceptional children in the regular-grade rooms or in special classes, semispecial classes, or special schools needs investigation. This has been a subject of controversy for many years, but, to date, very little evidence exists for any point of view. Arguments have been based upon evidence from individual cases for which one organizational procedure has proved beneficial or some cases for which the organization has been detrimental. Research is needed in this area to determine the types and degrees of handicaps for which the special school, special class, semispecial class, or regular-grade program is most beneficial. In addition to experiments involving control groups, longitudinal studies would provide useful information on this problem.

2. Special education has been undertaken chiefly in large cities. No one has yet devised an acceptable program for exceptional children in rural areas. The stimulation of widespread efforts in small towns and rural areas still awaits the demonstration of an effective program for such schools.

3. Financing special-education programs is being done in different ways in different states. The most efficient form of state aid is yet to be determined. Considerable study is still required to determine whether the "excess-cost principle" is the best basis for the distribution of state aid. No studies have been made to determine the relative advantage of using the child, the class, or the teacher as the unit of measure of a district's share of the state subsidy for special-education programs.

4. There have been relatively few studies dealing with the social psychology of children to determine how normal children can learn to accept atypical children. Moreover, there is not a clear understanding of the real attitudes of adults toward the handicapped children in their homes or in the community. Attitudes of sentimentality, of pity, and of rejection have not been adequately studied. Although there has been a great deal of publicity since the war regarding opportunities for employment of the handicapped, we have few studies on the attitudes of other workers and of

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<sup>1</sup> For recent reviews of viewpoints on administration see John S. Haitema, "Administrative Research Necessary for Special Education," *Journal of Educational Research*, LX (April, 1947), 628-37; Charles Scott Berry, "General Problems of Philosophy and Administration in the Education of Exceptional Children," *Review of Educational Research*, XI (June, 1941), 253-60; Arch O. Heck, "General Problems in Philosophy and Administration in the Education of Exceptional Children," *Review of Educational Research*, XIV (June, 1944), 201-8; and Harry J. Baker, "Administration of Special Education," *Review of Educational Research*, XIV (June, 1944), 209-16.

the employers toward handicapped persons with whom they are associated in their regular work.

5. The optimum class size has not yet been determined for the instruction of exceptional children. How many children should the administrator assign to a teacher of the deaf? to a teacher of the mentally handicapped? to a teacher of speech correction? It is also important that we know the case load that can effectively be carried by a social worker, a psychologist, and a remedial teacher.

#### DIAGNOSIS

There has probably been more adequate research in the field of diagnosis than in any other field, some of the basic sciences having made notable contributions to this phase of the study of exceptional children. The medical profession has devoted much time to diagnostic and therapeutic methods for physically handicapped children. Otologists have contributed to the diagnosis of hearing defects and to the treatment and prevention of impaired hearing. Ophthalmologists have made like contributions to the solution of educational problems resulting from defective vision. Psychologists are continually refining their instruments of mental measurement and devising diagnostic procedures which are useful in the study of personality. Projective methods of diagnosis are, at the present time, developing as rapidly as were the instruments of mental measurement some thirty years ago.

1. The field of diagnosis as related to and affecting educational procedures is still in its infancy. We can measure the intellectual level of the child, but we are still searching for the means of securing an adequate differential diagnosis. Not all mentally retarded children whose intelligence quotients are below 70 are alike. Not all can profit by the same educational procedures. Research in this field will attempt to determine major qualitative differences in children and will devise specific educational procedures to fit each child's qualitative abilities or disabilities. Such an attempt was made by Strauss and Lehtinen<sup>2</sup> in adapting special educational procedures to children with brain damage.

2. There is great need for more accurate diagnosis of various kinds of exceptional children. For example we know very little about the mental functioning of the different types of cerebral-palsied children. To educate them all by the same procedures would indicate a lack of knowledge of the differential effects of cerebral palsy among the different individuals whose handicaps are attributed to these effects.

3. Why some deaf children learn to speak while others do not is a question for diagnosis and research. Why some children incidentally pick up

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<sup>2</sup> Alfred A. Strauss and Laura E. Lehtinen, *Psychopathology and Education of the Brain-injured Child*, p. 206. New York: Grune & Stratton, 1947.

lip-reading while others seem unable to acquire this skill is another problem which is puzzling to research workers and teachers.

4. We know that gifted children in general are superior to average children in the performance of school work, but we have not studied extensively their modes of learning and generalization. Our educational system will not be able to determine the most effective techniques of instruction until we are able to make these differential diagnoses and adapt instruction to the special abilities of different kinds of gifted children.

5. Many forms of psychotherapy and many forms of environmental manipulation are being suggested for socially maladjusted children. The reason for the divergence of opinion in this field is that we are unable to make diagnoses on the basis of established principles of group dynamics. The vagueness and differences in treatment methods cannot be remedied without substantial progress in the study of this aspect of human experience.

#### PROJECTS AND RESEARCH IN THE SPECIFIC AREAS

There are many common problems for all groups of exceptional children. For the purpose of clarity, however, and in spite of possible repetition, it may be well to consider separately the projects and research needed for specific groups of exceptional children. The problems will be stated as briefly as possible because of the lack of space for further discussion of them. Experimental designs necessary for solution of these problems must be left to the individual research workers.

#### The Visually Handicapped

Some of the pertinent research problems relating to visually handicapped children may be stated as follows:<sup>3</sup>

1. There is still some doubt concerning the most adequate visual-screening procedures which can be made for all school children in a public school system. What is needed is a quick and efficient method that can be used by classroom teachers for detecting children with visual defects so that they can be referred to ophthalmologists.

2. Research is needed in the area of auditory aids for visually defective children, both partially seeing and blind. With new wire and tape recorders and advances in radio and in ease of transcribing programs, research is needed to determine the most effective means of using these aids in the education of visually defective children.

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<sup>3</sup> For a review of the literature on research see Berthold Lowenfeld, "Research in the Education of the Blind," *Journal of Educational Research*, LX (April, 1947), 583-91; Henrietta Kornitzer, "Problems for Research in the Education of Partially Seeing Children," *Journal of Educational Research*, LX (April, 1947), 592-97; and Christine P. Ingram, "The Visually Handicapped, the Delicate, and the Crippled," *Review of Educational Research*, XI (June, 1941), 315-29.

3. Very little research in the field of personality and personality adjustment is available in relation to the visually handicapped. The determination of the effects of poor sight or blindness on personality adjustment has not yet been achieved. The values of psychotherapy or of different methods of counseling and guidance with the visually defective are still to be demonstrated. A study of this aspect of the education of the blind and partially seeing is greatly needed.

4. There has been a tendency on the part of teachers and supervisors of sight-saving classes to exclude from classes children whose intelligence quotients are below 70. Since it is believed that these children, because of a double handicap, are uneducable, projects in research to determine the most desirable provisions for this group are necessary. It is possible that an exaggeration of auditory aids for this group, rather than an attempt to instruct them by means of specially prepared visual materials, might produce results which would aid them in becoming partially or wholly self-supporting citizens.

5. A comparison of blind children educated in day schools and blind children educated in custodial institutions has not yet been made, due to the scarcity of day-school classes for the blind. Similarly a comparison of the progress of children in sight-saving classes with the progress of partially-seeing children now in residential institutions is also needed. It is necessary that we determine the comparative effects of both types of education in order to adequately organize services for these children on a scientific basis. Some residential schools for the blind send their promising high-school students to regular day schools. Some states, such as Oregon,<sup>4</sup> have developed a program which integrates the residential school with the public schools by keeping children in their community schools under supervision.

6. Continued research on instructional procedures and materials is also necessary for partially seeing children. The size of type, the degree of illumination necessary in the classroom, cheaper processes of reproduction of clear-type materials to make them more available are also needed for the instruction of partially seeing children.

7. The measurement of intellectual and educational ability has been done for both the partially seeing and blind children. The adaptation of the Binet-type test by Samuel P. Hayes has served a purpose. It is important, however, that we construct tests specifically designed for the blind and the partially seeing and compare the results with scores of normal children to determine whether the sensory defect produces compensations in other areas in mental and educational fields. Lowenfeld says "the need for better motor skills tests and for better measures of general

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<sup>4</sup> Berthold Lowenfeld, "The Oregon Plan," *Outlook for the Blind*, XL (March, 1946).

mental ability and of emotional and personal adjustment is emphasized."<sup>5</sup>

8. There is considerable emphasis on preschool and parent education of blind children. It is assumed that the lack of sight causes retardation in sensory functions and their co-ordination and in the growth of behavior patterns such as postural control, locomotion, language, and socialization. It would be important for educational programs to determine in which ways blindness retards development.

9. Lowenfeld<sup>6</sup> has pointed out that physical activity on the part of the blind consists of mental orientation and physical locomotion. Research should be directed toward determining how obstacle perception can be taught. Although existing research has shown that aural stimulation is responsible for obstacle perception, more research and experimentation are needed on the development of mental orientation.

#### The Auditorially Handicapped

There has been considerable research on the education of deaf and hard-of-hearing children as reviewed in chapter ix. Some of the important projects and research that are still needed in this field are:

1. There is considerable emphasis on the education of the preschool deaf or hard-of-hearing child. The hypothesis behind this emphasis is that, since speech develops at the age of two or three with normal-hearing children, it is probably advantageous to begin speech training and lip reading and the other forms of communication with deaf children at this age level. To wait until a child reaches school at the age of six may be too late since at that time he will have developed substitute forms of communication. Research in this area is badly needed to determine not only whether this is possible but whether residual hearing can be utilized with modern amplification to aid in the development of speech and language. An evaluation of the effects of preschool training on language and speech development, using as controls those who did not have the opportunity for such training, would be a significant research project.

2. To determine whether preschool training with amplification increases the sensory acuity of the children or the auditory perceptual process has been delayed because of the lack of accurate audiometric determination at the lower age levels. The construction of a more accurate preschool audiometric test through the use of the psychogalvanic skin reflex, electroencephalograph, or other devices would be a fruitful area of research.

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<sup>5</sup> *Ibid.*, p. 589.

<sup>6</sup> Berthold Lowenfeld, "Effects of Blindness on the Cognitive Functions of Children," *Nervous Child*, VII (January, 1948), 49-50.

3. Methods of diagnosis of mental abilities of deaf children would assist workers in adapting educational procedures to the needs of these children. Although some general mental tests have been developed, tests for differential diagnosis of children who can or cannot learn speech, speech reading, and language are necessary for the proper planning of instructional programs for these children.

4. Controversy over the relative advantages of day-school education and residential-school education is one that requires more adequate research than has yet been produced. Entrenched interest in this field has retarded accurate and objective studies. With refined methods of audiometric determinations, better mental measurement, better means of educational evaluation, and better means of social, vocational, and personality evaluation, it is now possible to compare results of day-school and residential-school methods. In addition, there may be some children for whom residential instruction is preferable, whereas others may be more effectively educated in day schools. It is necessary, therefore, to determine those characteristics requiring differences in education. It is possible also that some can profit most from manual instruction while others can profit most from speech instruction. Unless we have better methods of diagnosis and more accurate methods of evaluating educational procedures, this problem will remain in the area of opinion and prejudice.

5. Research on hearing aids should be supplemented with refined methods and controlled experiments in auditory training. Although auditory training has been attempted for some time with the severely hard-of-hearing and slightly hard-of-hearing who have been using hearing aids, this field still offers excellent opportunities for research and experimentation from an educational point of view.

6. New methods and experimentation in language development, speech development, and reading development should be emphasized. At the present time the methods which have been evolved have been constructed by good teachers in the field but have not been adequately analyzed and evaluated. A contribution to the education of the deaf and the serverly hard-of-hearing will require an extensive evaluation of these methods of communication.

7. Research among the adult deaf is needed to determine the social and vocational adjustment of these individuals. Whether they are to be associated mainly with other deaf individuals or with hearing people has been left to chance. Research in this field should be directed toward the determination of the kinds and types of education that should be established for children in order to insure the best social and vocational adjustment of deaf individuals.<sup>7</sup>

<sup>7</sup> For a review of research in this field, see Wendell Johnson and Warren H. Gardner, "The Auditorially and Speech Handicapped," *Review of Educational Research*,

### Speech Re-education

Chapter x of this yearbook gives a concise statement of the problems of speech-handicapped children and of appropriate plans for their education. Speech correction has been the object of more scientific research than is characteristic of other procedures employed in the education of exceptional children. This fact not only emphasizes the importance of speech but also indicates that research interests of universities and other agencies have been more concerned with the problems of speech improvement than with other types of handicaps that impede the educational progress of children and youth. The frequency of speech disorders is greater than that of most other handicaps. Some of the educational problems presented by speech disorders consist of:

1. In what way should a superintendent utilize the services of a speech correctionist? Should he use the speech correctionist as an itinerant teacher? Should he establish a center for children with major speech defects? Should the speech correctionist devote full time to assisting teachers to improve speech in their classrooms? Research on the problems of organizational procedure would be of great value to school systems.

2. What kinds of speech defects in a school system can teachers handle in a classroom situation? Controlled experimentation on the improvement of certain kinds of speech defects in a classroom situation by the classroom teacher under the supervision of a speech correctionist, as compared to correction of defects by speech correctionists alone, would throw some light on this problem.

3. Studies on the effect of psychotherapy on psychogenic speech defects such as stuttering are at the present time worthy of emphasis. Controlled experimentation on this problem is needed.

4. Studies on the effects of speech correction in groups versus speech correction given individually should also be conducted.

5. The most effective frequency of speech-correction lessons has not yet been determined. Is it more efficacious for a child to receive speech correction every day for six or eight weeks or once or twice a week for a longer period of time? Answers to such questions can be given only on the basis of careful experimentation.

### The Physically Handicapped

The physically handicapped cases here referred to are exclusive of the deaf and hard-of-hearing and the visually handicapped, which have already been considered.

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XIV (June, 1944), 241-63; Christine P. Ingram and Rudolph Pintner, "The Auditorially and Speech Handicapped," *Review of Educational Research*, XI (June, 1941), 297-305; and Helmer R. Myklebust, "Research in the Education and Psychology of the Deaf and Hard-of-Hearing," *Journal of Educational Research*, LX (April, 1947), 598-607.

Although a great deal of research has been done on the medical and physical aspects of crippling conditions, one is impressed by the scarcity of research reports dealing with the education of these children. There is much less research on problems of social adjustment, educational organization and administration, and special methods and techniques as applied to the education of physically handicapped children.

Among the important research projects needed in relation to the education of crippled children are the following:

1. No one has yet studied the personality development of crippled children in schools where special programs and facilities are provided for crippled children as compared to similar children in smaller communities where they are enrolled in the regular classrooms because of the lack of special classes. Some believe that crippled children should be taught in the regular grades if at all possible. Since the advantages of this procedure cannot be substantiated by present knowledge, carefully designed experiments along this line should be conducted to determine the relative value of different procedures on the social-adjustment patterns of such children.

2. In many cases methods and techniques of education have been adapted to the physical abilities of the child in a classroom. It is possible that different kinds of cerebral-palsied children may react to learning experiences differently, yet there is very little differentiation in educational procedures employed with the athetoid, the ataxic, and the spastic. Qualitative analyses of mental abilities of these brain-injured children may give us some leads concerning more adequate educational procedures.

3. The social adaptability of the physically handicapped and the effect of handicapping conditions on vocational adjustment have engaged the attention of some research workers. Because of the complexity of this problem and the numerous variables involved, more research will be needed in this area before we are able to define more clearly the educational and vocational guidance programs for the handicapped. A summary of the studies in this field has been made by Barker and others.<sup>8</sup>

4. Psychological tests for the cerebral-palsied have not yet been devised. Adaptations of other intelligence tests are frequently used. A research program keyed to an evaluation of mental abilities of cerebral-palsied children would be of great value in determining their potentialities. At present, their educability is appraised on the basis of the opinion of clinicians and other specialists in the field.

5. Tests of the motor proficiency of crippled children have not yet been

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<sup>8</sup> Roger G. Barker, Beatrice A. Wright, Mollie R. Gonick, "Adjustment to Physical Handicap and Illness," *A Survey of the Social Psychology of Physique and Disability*. Social Science Research Council Bulletin 55. New York: Social Science Research Council, 1946.



devised. Research workers have concentrated on motor tests for normal adolescents and adults. At present there are no tests that utilize the more fundamental physiological determinants in evaluating the motor-proficiency level of crippled children such as has been attempted by Oseretsky<sup>9</sup> in studies of other children.

6. The determinants of personality structure may, in part, be the result of limitations imposed by physical handicap. Studies in this area are rare and sporadic. Thorough case histories of physically handicapped individuals and the use of projective techniques with a large number of such individuals may assist in determining the effects of various forms of physical handicaps on personality development and personality structure. With the exception of descriptions based on experience with individual cases, for example, we do not know the differences or similarities in personality among cases of the grand mal, petit mal, and psychomotor forms of epilepsy. We do not know, with any degree of assurance, the differences in personality and emotional reactions of the athetoid, the spastic, or the ataxic forms of cerebral palsy.

### The Mentally Retarded

The field of mental deficiency or mental retardation has been studied by sociologists, physicians, endocrinologists, psychologists, psychiatrists, and educators. There is a vast literature in this field, especially in physical, social, and mental diagnosis. Some of the areas that need further investigation are the following:

1. It would be desirable to study the effects of maximum educational opportunities at the preschool age on the social and mental development of mentally handicapped children. These children are usually offered special educational facilities only after they have failed in school. Such an experiment would be, by its nature, a long-time study, directed toward the investigation of the educational factors affecting social, emotional, and mental growth of young children with low intelligence.

2. A study of the most efficient means of educating the adolescent mental-defective for social and vocational adjustment is a much-needed project. The existing programs in this field are of a patchwork nature, with little follow-up on the effects of such efforts. What is needed is experimentation with several types of instructional programs with follow-up studies to determine the results of the various plans.

3. The level of aspiration of the mentally handicapped and the means of educating these children to adapt their aspirations to their abilities present another major problem worthy of investigation. Educational pro-

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<sup>9</sup> *The Oseretsky Tests of Motor Proficiency*. Edited by Edgar A. Doll. Minneapolis, Minnesota: Educational Test Bureau, 1946.

cedures for such children are partly contingent upon their purposeful interest.

4. There is much discussion about the potentialities of children whose school work continues at a low educational level and whose ratings on intelligence quotients are low even though it is suspected that they are normal in intelligence. It is assumed that in some cases the low performance on intelligence tests is a result of emotional factors. There is urgent need for an extensive study of the effects of play-therapy and other forms of psychotherapy on selected groups of children who are classified as mentally handicapped to determine the effects of such treatment on intellectual and educational performance.

5. Since many brain-injured children are classified as mentally handicapped, further research is needed to determine the characteristics of such children and the value of selected educational techniques in promoting their progress in school.

6. The effects of retaining mentally handicapped children in the regular grades should also be studied by some sort of sociometric technique. Are these children accepted by the social group of normal children? How do other children react to them in the classroom? What behavior characteristics appear to affect acceptance of them by other children?

### Gifted Children

The studies on children with superior intelligence are extensive in the area of the measurement of mental, physical, and social characteristics. There are practically no studies on the effects of different educational procedures. With the exception of the study by Sumption, reported in chapter xiv, we are still in the stage of opinion with respect to such problems as acceleration, special classes, enrichment of curriculum, or some combination of these procedures. Some of the research projects necessary for the advancement of knowledge in this field are as follows:

1. If the regular classroom activities are not suitable for gifted children, what are the reasons for the failure to meet the needs of these children? Before we enrich the program or change the program for them in the regular grades, we must first determine wherein the present program is not adequate. There is considerable speculation on this problem but no accurate data upon which to base decisions. The oft-repeated phrase, "our schools neglect gifted children," should be substantiated by adequate research which will also determine the kind and extent of the neglect.

2. Gifted children are quantitatively superior to average children in practically all mental performances. One of the questions that has been raised is whether there are some qualitative differences between the gifted and the normal, or among different groups of gifted children. Do

they have something different in kind or just more of the same thing? Research on this problem would help to determine a satisfactory organization of educational procedures for these children.

3. How does a gifted child learn from an ordinary textbook in a regular grade? How fast can he learn the materials presented? How long would it take him to cover the same material by short-cut methods? These are some of the questions that should be answered through research.

4. A study of gifted children who are not making adequate progress in the regular school may reveal the factors which retard progress. Unfortunately, many of these children are not known to be gifted because their academic achievement is not superior to other children.

### The Socially Maladjusted

The research previously discussed is, in a sense, research on the socially maladjusted, since the program for the education or rehabilitation of all types of exceptional children is an attempt to prevent social maladjustments in children who deviate physically, mentally, or emotionally. Studies in this area are numerous.<sup>10</sup> Controlled studies on diagnosis and treatment of maladjustment are rare, but the literature in the field extends into all areas of the study of human behavior. Psychiatry, clinical psychology, and social work have developed extensive bodies of literature in the field. Some research problems which require further investigation are:

1. Delinquent children have been committed to institutions as a last resort. As a consequence, the custodial institutions have been organized for children who have already committed numerous or serious delinquencies. What would be the effect of early institutional care of these children as compared to later treatment? Since many delinquent children come from relatively unwholesome environments, the removal of potential delinquents from such environments before delinquent-personality patterns become firmly established might prove to be the most effective program. Such investigations require controlled studies which are expensive and difficult to administer.

2. A study of the effect of different forms of school treatment in the area of prevention or correction of delinquent behavior would be a worthy project. Are special classes for the socially maladjusted in public school systems beneficial or detrimental? Can the school counselor or the school social worker do as well or better than the results achieved by spe-

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<sup>10</sup> See J. Harold Williams, "The Socially Maladjusted," *Review of Educational Research*, XI (June, 1941) and XIV (June, 1944); also, *Juvenile Delinquency and the Schools* (Forty-seventh Yearbook of the National Society for the Study of Education, Part I. Chicago: University of Chicago Press, 1948).

cial classes? Such studies would help the schools determine the most effective organization for the rehabilitation or prevention of social maladjustment in children.

3. Psychotherapy with socially maladjusted children is a costly program. Before school boards and the public will pay for such expensive service, someone must, through adequate research procedures, demonstrate the efficacy of psychotherapy in the correction of social maladjustments in children.

4. A common practice today in many communities is to establish community councils for the improvement of the community and for the prevention of delinquency. Studies in the social psychology of such councils and the effects of such organization on the prevention and treatment of socially inadequate children are needed.

#### CONCLUDING STATEMENT

Research results now available which serve as guides to the education of exceptional children have been primarily by-products of research in the basic sciences of medicine, biology, psychology, sociology, and related disciplines. There have been few extended research studies on the administrative and educational procedures for the various groups of exceptional children.

This chapter has attempted to suggest some of the research studies that are needed to improve educational procedures for children who are handicapped or gifted. Further effort in the direction of utilizing facts discovered in related sciences should be made. In addition, educational research on the problems of these children should be made the object of concentrated efforts on the part of workers in this area. The professional staffs find themselves overwhelmed with the service functions of programs developed for the benefit of exceptional children. Since there are so few specialists in the field, and since there will always be a great deal of service to render, it is important that educational institutions and state departments of education accept increased responsibility for stimulating types of research which will insure the progress that is expected of the schools in meeting the extraordinary needs of different classes of exceptional children.

## APPENDIX<sup>1</sup>

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### AGENCIES AND ASSOCIATIONS

#### GENERAL

##### FEDERAL SECURITY AGENCY, CHILDREN'S BUREAU

Division of Health Services  
Federal Security Building  
Washington 25, D.C.

Purpose: To administer federal aspects of joint federal-state programs of crippled children's services.

##### FEDERAL SECURITY AGENCY, OFFICE OF VOCATIONAL REHABILITATION

Federal Security Building  
Washington 25, D.C.

Purpose: To administer federal aspects of joint federal-state programs of vocational rehabilitation of disabled persons.

##### GOODWILL INDUSTRIES OF AMERICA, INC.

744 North Fourth Street  
Milwaukee 3, Wisconsin

Purpose and activities: To encourage the establishment and development, in various centers, of Goodwill Industries for the religious, cultural, educational, social, industrial, and economic welfare of the handicapped. It conducts research in the interest of providing increased service for the handicapped and of increasing the usefulness of discarded materials.

##### INTERNATIONAL COUNCIL FOR EXCEPTIONAL CHILDREN

Office of Treasurer  
Saranac, Michigan

Activities: The Council is an international organization which has as its purpose the promotion of the education and welfare of exceptional children—the handicapped and the gifted.

##### NATIONAL HEALTH COUNCIL

1790 Broadway  
New York 19, New York

Purpose and activities: To co-ordinate the activities of its member organizations; to carry on joint projects in the field of public health, such as program on the prevention of congenital syphilis.

##### NATIONAL REHABILITATION ASSOCIATION, INC.

900 Bauch Building  
Lansing, Michigan

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<sup>1</sup> The committee is indebted to Miss Jane Bull, Executive Director, Illinois Commission for Handicapped Children, Chicago, Illinois, for the preparation of the materials here presented regarding agencies and publications dealing with exceptional children.

Purpose and activities: Vocational rehabilitation is a service administered jointly by state and federal governments to restore and conserve to the fullest possible extent the working usefulness of the handicapped. This service is comparable to public education, public health, and other activities for the welfare of the people. Employment is always the final goal of vocational rehabilitation.

**NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, INC.**

11 South La Salle Street

Chicago 3, Illinois.

Purpose and activities: To organize and develop state societies for the welfare of crippled children and the physically handicapped; to establish necessary state and federal legislation for the care, education, and rehabilitation of the physically handicapped; to co-ordinate the program in all its phases for the best interests of the physically handicapped. A cerebral-palsy service was established in 1946 for the purpose of organizing and developing a nation-wide program of assistance for spastics.

**SHUT-IN SOCIETY, INC.**

221 Lexington Avenue

New York 16, New York

Purpose and activities: To give cheer and comfort to chronic invalids, cripples, and the blind who are members of the society. Correspondents are supplied who act as friends and advisers as to health, ways to earn, hobbies, etc. Shut-ins are also provided with sickroom supplies and materials for handiwork.

**VISUALLY HANDICAPPED**

**AMERICAN ASSOCIATION OF INSTRUCTORS OF THE BLIND**

Overbrook School for the Blind

Sixty-fourth Street and Malvera Avenue

Overbrook, Pennsylvania

Purpose: To provide a means for consultation concerning problems relating to the education of the blind and to foster and promote movements having as their aim the improvement of such education.

**AMERICAN ASSOCIATION OF WORKERS FOR THE BLIND**

Winnetka, Illinois

Purpose and activities: To consider and promote the education, employment, advancement, and general welfare of the blind of North America and the American dependencies through such measures and agencies as may be deemed best adapted to their needs.

**AMERICAN FOUNDATION FOR THE BLIND, INC.**

15 West Sixteenth Street

New York 11, New York

Activities: The Foundation is an organization for the promotion of those interests of the blind which cannot be advantageously handled by local agencies. Its activities include the following: research in education, statistics, legisla-

tion, mechanical appliances, and publishing methods for the blind; assistance to state and community agencies in the organization of their activities and in the promotion of legislation; special departments for service to the deaf-blind; special services to blind individuals; scholarships for a limited number of promising students; and a special lending and reference library.

**AMERICAN PRINTING HOUSE FOR THE BLIND**

1839 Frankfort Avenue  
Louisville 6, Kentucky

Purpose and activities: To provide literature and appliances for the blind on a nonprofit basis. Embossed books, talking-book records, and tangible apparatus for educational purposes are provided through a federal appropriation and are distributed on a per-capita basis to all the free educational institutions for the blind throughout the United States and its territories. Periodicals and books are manufactured at cost for organizations which provide free literature for the blind.

**BRILLE INSTITUTE OF AMERICA, INC.**

741 North Vermont Avenue  
Los Angeles 27, California

Activities: These include consultation by correspondence and personal interviews; home instruction in the use of Braille and Moon type, and in handicrafts and homemaking; invention of appliances, such as a portable Braille-writer; and experimental work in the field of electronics. The Institute prints and publishes books and periodicals in Braille and Moon embossed types on a nonprofit basis, including a student dictionary. The Institute sells to the blind at cost, or donates appliances, games, and supplies. It maintains one of the twenty-six regional free lending libraries of the Library of Congress.

**NATIONAL COUNCIL OF STATE AGENCIES FOR THE BLIND**

1060 Broad Street  
Newark 2, New Jersey

Purpose: To make possible an interchange of views on professional standards, policies, and administrative matters affecting agencies with state-supported and state-wide programs of services for the blind; and to furnish a medium for such agencies to co-ordinate their points of view with reference to federal legislation and other common problems.

**NATIONAL INDUSTRIES FOR THE BLIND**

14 West Sixteenth Street  
New York 11, New York

Purpose: To standardize and promote the sale of blind-made products on a nonprofit basis and to act as the allocating agency for orders for blind-made products received from the federal government.

**NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, INC.**

1790 Broadway  
New York 19, New York

Purpose and activities: To study causes of blindness or impaired vision, to advocate measures leading to the elimination of such causes, to serve as a

clearinghouse and stimulating agent for professional groups directly or indirectly responsible for saving sight, and to disseminate to the public information about eye care and protection. The Society assists health, welfare, education, safety, and other related agencies to incorporate appropriate conservation-of-vision activities into their major programs.

#### ACOUSTICALLY HANDICAPPED

##### AMERICAN HEARING SOCIETY

1537 Thirty-fifth Street, N.W.

Washington 7, D.C.

Purpose and activities: The Society is devoted to the cause of better hearing. It provides special information service for deafened veterans, aids in the education and economic and social adjustment of the severely hard-of-hearing, and promotes the early discovery and correction of hearing loss in children. It encourages the use of hearing aids and the study of lip reading, stimulates scientific efforts in prevention of deafness and conservation of hearing, and promotes the organization and efficient operation of local societies.

##### AMERICAN INSTITUTE FOR THE DEAFENED

122 East Twenty-second Street

New York, New York

Purpose: To normalize and rehabilitate the deafened.

##### AMERICAN SPEECH AND HEARING ASSOCIATION

Office: Care of Wayne University

Detroit, Michigan

Purpose: To stimulate more intelligent interest in problems of speech correction; to raise standards among workers in speech correction; to secure public recognition of the practice of speech correction as an organized profession; to furnish the profession with responsible and authoritative leadership; to make leadership respected by means of scholarly research, publicity, and administrative skill.

##### NATIONAL ASSOCIATION OF THE DEAF, INC.

School for the Deaf

Columbus, Ohio

Purpose and activities: To improve, develop, and extend schools for the deaf throughout the world, and especially in the United States; to eliminate unjust liability, compensation, and traffic laws; to establish state and national labor bureaus for the deaf; to remove barriers against the deaf in civil service and other employment.

##### VOLTA BUREAU

1537 Thirty-fifth Street, N.W.

Washington 7, D.C.

Purpose and activities: Center of information about deafness. Maintains library on deafness. Serves as headquarters of the American Association To Promote the Teaching of Speech to Deaf.

##### VOLTA SPEECH ASSOCIATION FOR THE DEAF

1537 Thirty-fifth Street, N.W.

Washington 7, D.C.



Purpose and activities: To assist schools for the deaf in their effort to teach speech and lip-reading, to provide information for parents of deaf children, and to maintain a reference library on deafness.

## SPEECH DEFECTIVE

## AMERICAN SPEECH AND HEARING ASSOCIATION

Office: Wayne University  
Detroit, Michigan

Purpose: To stimulate more intelligent interest in problems of speech correction; to raise standards among workers in speech correction; to secure public recognition of the practice of speech correction as an organized profession; to furnish the profession with responsible and authoritative leadership; to make leadership respected by means of scholarly research, publicity, and administrative skill.

## ORTHOPEDICALLY HANDICAPPED AND CARDIOPATHIC

## AMERICAN HEART ASSOCIATION, INC.

1790 Broadway  
New York 19, New York

Purpose and activities: To gather facts relating to heart disease and disseminate information as to its prevention and care; to develop and apply measures which will prevent heart disease; to encourage and assist in the development of new centers for cardiac work; to co-ordinate the work of centers for the prevention and care of heart disease; and to arouse the public to its responsibility and opportunity to combat heart disease. In 1944 the American Council on Rheumatic Fever, consisting of representatives of all national, medical, nursing, and public health associations concerned with rheumatic fever, was set up as an integral part of the Association. Its activities include aid to local communities in the organization of rheumatic fever programs, sponsorship on research, and promotion of lay education.

## NATIONAL FOUNDATION FOR INFANTILE PARALYSIS, INC.

120 Broadway  
New York 5, New York

Purpose and activities: To lead, direct, and unify the fight on every phase of infantile paralysis. The Foundation supports laboratory and clinical research in infantile paralysis, establishes standards for after-care, conducts educational programs, and supports public health authorities in efforts to combat outbreaks of the disease. Most of the nation's counties are covered by Foundation chapters which furnish funds for medical treatment and care of patients, co-operate with medical authorities during epidemics, and conduct local educational activities.

## OTHER HANDICAPPING CONDITIONS

## AMERICAN CANCER SOCIETY, INC.

Empire State Building  
New York 1, New York

Purpose and activities: To serve the American people in the control of cancer by collecting funds and developing a program of service, education, and research on a national basis.

**AMERICAN CHAPTER OF THE LEAGUE AGAINST EPILEPSY**

Illinois Neuropsychiatric Institute

912 South Wood Street

Chicago, Illinois

Purpose: To co-ordinate the activities of those doctors who are interested in the better care and treatment of epileptics and to stimulate interest in the social and scientific aspects of the disease.

**AMERICAN EPILEPSY LEAGUE, INC.**

130 North Wells Street

Chicago 3, Illinois

Purpose and activities: To spread up-to-date information about epilepsy, including the publishing and distributing of pamphlet material, and to encourage more substantial public support of research investigations in the field. It is interested in furthering ways and means of securing permanent employment for epileptics. The League conducts a referral service of physicians, hospitals, clinics, and educational and training opportunities for persons with epilepsy.

**AMERICAN SOCIAL HYGIENE ASSOCIATION, INC.**

1790 Broadway

New York 19, New York

Purpose and activities: To inform the public about the national program and needed community action; to combat syphilis and gonorrhea as dangerous communicable diseases; to prevent the loss of manpower due to venereal disease; to improve community conditions which lead to sex delinquency among young people; to promote, from childhood on, sound sex education and training for marriage and parenthood; and to protect and improve the American family as a basic social institution. It promotes both educational activities to instruct the population about syphilis and gonorrhea and medical activities to provide early disinfection in cases of exposure and early discovery and medical aids in cases of infection.

**AMERICAN SOCIETY FOR CONTROL OF CANCER**

350 Madison Avenue

New York, New York

Object: To collect, collate, and disseminate information concerning symptoms, diagnosis, treatments, and prevention of cancer; to aid voluntarily indigent cancer patients in securing adequate diagnosis or treatment in connection with accredited physicians.

**CAPPER FOUNDATION FOR CRIPPLED CHILDREN**

Topeka, Kansas

Purposes and activities: To assist unfortunate crippled children whose parents are unable to provide necessary surgical and medical ministrations, so as to

restore them as far as possible to normal health and physical ability to take care of themselves.

#### INTERNATIONAL CANCER RESEARCH FOUNDATION

Lincoln Liberty Building  
Philadelphia, Pennsylvania

Purpose and activities: To further research into the causes, prevention, control, relief, and cure of those diseases—commonly called cancer. Several health-maintenance and cancer-prevention clinics have been sponsored by this Foundation.

#### NATIONAL ASSOCIATION TO CONTROL EPILEPSY, INC.

22 East Sixty-seventh Street  
New York 21, New York

Purpose: To build an informed public opinion about epilepsy and to distribute up-to-date information to physicians, medical technicians, libraries, and the public; to promote and assist in the formation of local clinics, camps, and educational programs throughout the country by offering counsel and co-operation, plus financial grants for special projects when possible.

#### NATIONAL TUBERCULOSIS ASSOCIATION

1790 Broadway  
New York 19, New York

Purpose and activities: To study tuberculosis in all its forms and relations, to disseminate knowledge concerning the causes, treatment, and prevention of tuberculosis; to stimulate, unify, and standardize the work of the various antituberculosis agencies throughout the country, especially the state and local associations; to co-operate with all other health organizations in the co-ordination of health activities; and to promote international relations in connection with health activities in the study and control of tuberculosis. The Association serves as a clearinghouse for research, information, advice, and literature dealing with tuberculosis work.

#### MENTALLY HANDICAPPED

##### AMERICAN ASSOCIATION ON MENTAL DEFICIENCY

Washington Crossing, New Jersey

Purpose and activities: To study the causes of mental deficiency and subjects pertaining to the instruction and welfare of the mentally deficient. The following are among the specific aims: a complete census and registration of all mentally deficient children of school age, extra-institutional supervision of all defectives in the community, parole for all suitable institutionally trained mentally defective persons, and special provision for defective delinquents.

#### GIFTED CHILDREN

##### AMERICAN ASSOCIATION FOR GIFTED CHILDREN

Harold F. Clark, President  
Teachers College, Columbia University  
New York, New York

## SOCIALLY AND EMOTIONALLY HANDICAPPED

## AMERICAN FOUNDATION FOR MENTAL HYGIENE, INC.

1790 Broadway

New York 19, New York

Activities: The Foundation seeks gifts and bequests in order to give financial aid, in so far as its resources permit, to research and other work which will help conserve mental health, reduce and prevent nervous and mental disorders and mental defect, and improve the care and treatment of persons suffering from such disorders.

## NATIONAL COMMITTEE FOR MENTAL HYGIENE, INC.

1790 Broadway

New York 19, New York

Activities: The Committee works for the conservation of mental health; reduction and prevention of mental and nervous disorders and defects; improved care and treatment of persons suffering from mental diseases.

## NATIONAL MENTAL HEALTH FOUNDATION

P.O. Box 7574

Philadelphia 1, Pennsylvania

Purpose and activities: To conduct a national mental health program of prevention, education, and improvement. The Foundation, a nonprofit organization, is an outgrowth of the former Mental Hygiene Program of Civilian Public Service.

## PUBLICATIONS

## GENERAL

## AMERICAN JOURNAL OF OCCUPATIONAL THERAPY (Bimonthly)

739 Boylston Street

Boston 16, Massachusetts

## ARCHIVES OF PHYSICAL MEDICINE (Monthly)

Official journal of American Congress of Physical Medicine

30 North Michigan Avenue

Chicago 2, Illinois

## ARCHIVES OF PHYSICAL THERAPY (Monthly)

American Congress of Physical Therapy

30 North Michigan Avenue

Chicago 2, Illinois

## THE CRIPPLED CHILD (Bimonthly)

Official organ of National Society for Crippled Children

11 South LaSalle Street

Chicago, Illinois

## THE CRIPPLED CHILD BULLETIN (Monthly)

National Society for Crippled Children

11 South LaSalle Street

Chicago, Illinois

**HANDICAP (Monthly)**

1017 Fifteenth Street, N.W.  
Washington, D.C.

**JOURNAL OF EXCEPTIONAL CHILDREN (Monthly)**

International Council for Exceptional Children  
A department of National Education Association  
Saranac, Michigan

**JOURNAL OF REHABILITATION (Monthly)**

Official organ of National Rehabilitation Association, Inc.  
1114 Fifty-sixth Street  
Des Moines, Iowa

**NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS BULLETIN ON CURRENT LITERATURE (Monthly)**

11 North LaSalle Street  
Chicago, Illinois

**OCCUPATIONAL THERAPY AND REHABILITATION (Bimonthly)**

American Occupational Therapy Association  
Mt. Royal and Guilford Avenue  
Baltimore 2, Maryland

**PHYSICAL THERAPY REVIEW (Bimonthly)**

4741 North Paulina Street  
Chicago, Illinois

**SPECIAL EDUCATION REVIEW (Quarterly)**

Board of Education Office  
Newark, New Jersey

**UNDERSTANDING THE CHILD (Quarterly)**

National Committee for Mental Hygiene  
1790 Broadway  
New York 19, New York

**THE CHILD (Monthly)**

Division of Reports, Children's Bureau  
Superintendent of Documents, Government Printing Office  
Washington 25, D.C.

**VISUALLY HANDICAPPED****EYE HEALTH AND SAFETY NEWS (Irregular)**

Organ of National Society for Prevention of Blindness, Inc.  
1790 Broadway  
New York 19, New York

**FIELD OF VISION (Quarterly)**

New York State Commission for Blind  
State Department of Social Welfare  
205 East Forty-second Street  
New York 17, New York

OUTLOOK FOR THE BLIND AND THE TEACHERS FORUM (Monthly except July and August)

Organ of American Foundation for the Blind, Inc.  
15 West Sixteenth Street  
New York 11, New York

SIGHT SAVING REVIEW (Quarterly)

National Society for Prevention of Blindness  
1315 Cherry Street  
Philadelphia, Pennsylvania

#### ACOUSTICALLY HANDICAPPED

AMERICAN ANNALS FOR THE DEAF (Bimonthly)

Gallaudet College  
Washington 2, D.C.

HEARING NEWS (Monthly)

Official organ of American Hearing Society  
817 Fourteenth Street, N.W.  
Washington, D.C.

HEARING SURVEY QUARTERLY (Quarterly)

1209 Grenshaw Boulevard  
Los Angeles, California

JOURNAL OF SPEECH AND HEARING DISORDERS (Quarterly)

American Speech and Hearing Association  
University of Illinois  
Urbana, Illinois

VOLTA REVIEW (Monthly)

Volta Bureau  
1537 Thirty-fifth Street, N.W.  
Washington 7, D.C.

#### SPEECH DEFECTIVE

JOURNAL OF SPEECH AND HEARING DISORDERS (Quarterly)

American Speech and Hearing Association  
University of Illinois  
Urbana, Illinois

#### ORTHOPEDICALLY HANDICAPPED AND CARDIOPATHIC

AMERICAN HEART ASSOCIATION NEWS LETTER (Irregular)

311 South Juniper  
Philadelphia, Pennsylvania

BRACES TODAY (Monthly)

Official organ of Pope Foundation, Inc.  
197 South West Avenue  
Kankakee, Illinois

## OTHER HANDICAPPING CONDITIONS

## AMERICAN JOURNAL OF DISEASES OF CHILDREN (Monthly)

American Medical Association  
535 North Dearborn Street  
Chicago, Illinois

## AMERICAN REVIEW OF TUBERCULOSIS (Monthly)

American Trudeau Society  
National Tuberculosis Association  
1790 Broadway  
New York, New York

## AMERICAN SOCIETY FOR CONTROL OF CANCER BULLETIN (Monthly)

350 Madison Avenue  
New York, New York

## EPILEPSIA (Annually)

130 North Wells Street  
Chicago, Illinois

## THE GREEN LIGHT (Quarterly)

National Association to Control Epilepsia  
22 East Sixty-seventh Street  
New York 21, New York

## NATIONAL CANCER INSTITUTE JOURNAL (Bimonthly)

Federal Security Agency  
U.S. Public Health Service  
Superintendent of Documents  
Washington, D.C.

## THE NERVOUS CHILD (Quarterly)

Child Care Publications  
Mt. Royal and Guilford Avenue  
Baltimore 2, Maryland

## SPASTIC REVIEW (Monthly)

1751 North Fairmount  
Wichita, Kansas

## MENTALLY HANDICAPPED

## AMERICAN JOURNAL OF MENTAL DEFICIENCY (Quarterly)

372-74 Broadway  
Albany, New York

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